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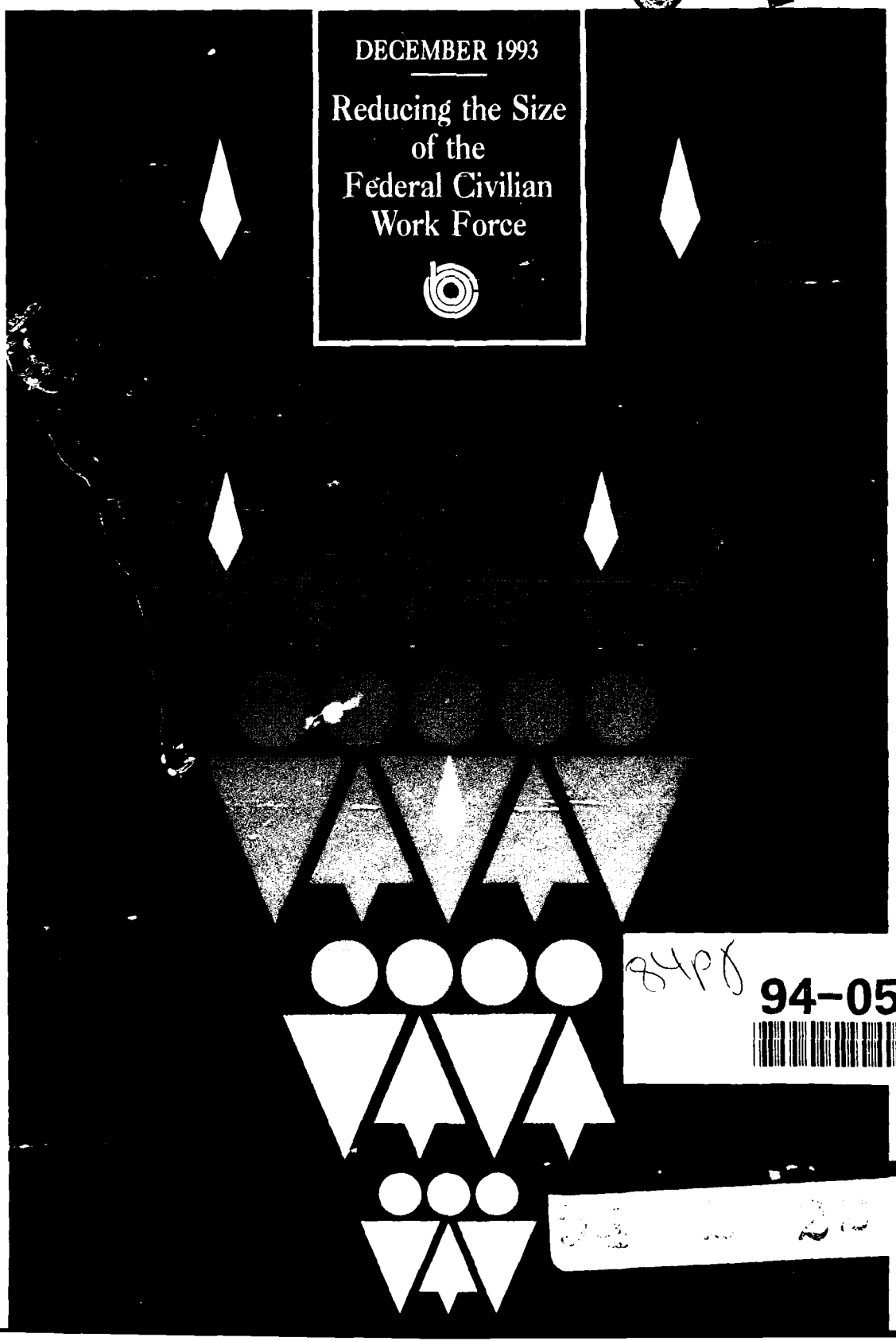
# CBO STUDY



DECEMBER 1993

# Reducing the Size of the Federal Civilian Work Force



# REDUCING THE SIZE OF THE FEDERAL CIVILIAN WORK FORCE



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Congressional Budget Office


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## NOTES

This analysis is confined to the federal government's civilian employees--both those in defense agencies and those in nondefense agencies. Unless otherwise indicated, the analysis covers all federal agencies except the Federal Bureau of Investigation, the Central Intelligence Agency, and other, selected small agencies. The analysis also excludes, unless otherwise indicated, employment at the U.S. Postal Service because the agency has a quasi-independent status and a separate compensation system.

Unless otherwise noted, all years are fiscal years.

Numbers in the text and tables may not add to totals because of rounding.

# Preface

Reducing federal employment levels has become an important element in efforts to improve the efficiency of government and reduce its costs. This study examines different methods of reducing federal employment and compares them on the basis of cost and their effects on the work force. The study was requested by Congressman Vic Fazio, Chairman of the Subcommittee on Legislative of the House Committee on Appropriations, joined by Congressmen Norm Dicks, Steny Hoyer, and James Moran and Senator Paul Sarbanes.

Amy Belasco and R. Mark Musell wrote the study under the supervision of Robert Hale, Robert Hartman, and Neil Singer. Mark Musell of the Congressional Budget Office's (CBO's) Special Studies Division was the primary author of Chapters 1, 2, and 3 and Appendix A. Amy Belasco of CBO's National Security Division was the primary author of Chapters 4 and 5 and Appendix B. Jonathan Berg, also of the National Security Division, provided extensive research, computer analysis, and technical support and was the primary author of Appendix C. Brad Kho, formerly of the Special Studies Division, provided research assistance.

Paul Cullinan of CBO's Budget Analysis Division and David Mosher of the National Security Division made helpful comments, as did Robert Rideout of the Office of Management and Budget and Karen Alderman of the Department of Defense. The Department of the Army furnished copies of a computer model developed by MTL Services International, Inc., and PRC, Inc. Mike Dove, Debbie Eitelberg, and Jim Creager of the Defense Manpower Data Center provided data on the composition and characteristics of the Department of Defense's civilian work force.

Sherry Snyder edited the manuscript, and Christian Spoor provided editorial assistance. Mary Braxton and Cindy Cleveland produced numerous drafts. Kathryn Quattrone, with the assistance of Martina Wojak-Piotrow, prepared the study for publication.

Robert D. Reischauer
Director

December 1993

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# Summary

Both the Congress and the Administration have shown a continuing interest in cutting federal employment as a method of reducing federal costs and controlling federal deficits. In February 1993, for example, the President announced a plan to reduce employment by 100,000 through 1995. The recent report of the National Performance Review (NPR) calls for additional cuts in procurement, personnel, and selected other management and administrative operations. The government has three standard approaches to reducing employment.

- It imposes a hiring freeze--that is, it does not replace some or all of the workers who leave for retirement or for other reasons.
- It lays off workers, in what the government refers to as a reduction in force.
- It offers workers the opportunity to retire early.

More recently, the government has granted the Department of Defense (DoD) and a number of other agencies the authority to offer cash payments to employees who leave their jobs--or separate--voluntarily. These agencies together employ around 40 percent of the federal civilian work force. The Congress is considering legislation that would extend authority for such payments to all civilian agencies.

Each of the approaches examined in this report has costs--for example, the severance payments to which laid-off workers may be entitled. The Congressional Budget Office's (CBO's) analysis suggests, however, that savings in pay and benefits over time can far exceed the costs of separating workers regardless of which strategy is used. Federal decisionmakers may therefore want to give as much consideration to the impact of each strategy on the structure of the work force and other noncost considerations as they do to costs.

## The Federal Work Force and Possible Layoffs

Plans to reduce the federal civilian work force will fall on a large and diverse group of people who account for about 2 percent of all civilian employees in the United States, over 2 million in all. (The analysis, unless otherwise indicated, excludes employees of the U.S. Postal Service.) Members of this work force represent more than 850 occupations; about 80 percent of these workers are white-collar. More than 100 agencies direct the efforts of this vast work force. Just three agencies, however--the Department of Defense, the Department of Veterans Affairs, and the Department of the Treasury--employ about 6 of every 10 federal civilian workers. Despite recent cutbacks, DoD remains the government's largest employer.

### Trends in the Work Force

Current efforts to reduce the work force would counter a recent pattern of modest growth in U.S. government employment that contradicts the popular

perception of a rapidly expanding work force. During the 1982-1992 period, the federal civilian work force grew by 4 percent (see Summary Table 1). Since 1982, DoD has experienced a net decrease in employment of 22,000, or 2 percent, and other agencies have experienced a net increase in employment of 104,000, or 9 percent, over the same period.

The average age of the federal work force, moreover, is rising. According to the General Accounting Office, about 74 percent of the work force is age 35 or older, up from 66 percent in 1976. By comparison, 53 percent of workers outside government are 35 or older. These trends suggest that in the long run, the government may have to focus on how to keep workers rather than on how to eliminate them.

## Possible Layoffs at DoD

As long as efforts to find solutions to the government's budgetary problems continue, federal employment levels will probably remain an inviting target for reduction. One concern raised by such decreases is the number of layoffs that will occur. Because of the ongoing drawdown in military forces, DoD has had and is likely to continue to have the most extensive experience with reducing employment.

Based on recent projections, the civilian work force at DoD will decline by 16 percent--from 1,006,000 in 1992 to 850,000 in 1997. CBO estimates that about 27,200 employees could be laid off during that period. These estimates do not reflect DoD's current use of separation incentives (cash payments) to reduce the number of layoffs. Even without using incentives, annual layoffs would average less than 1 percent of the work force.

CBO's estimates assume that layoffs will chiefly occur where reductions in the work force are concentrated by area or occupation, as in the case of base closings, reorganizations designed to improve efficiency, and rapid decreases in work load. If normal turnover falls, or if deeper cuts are made in defense resources, layoffs could increase. Layoffs could fall if reductions are less concentrated, if DoD provides additional retraining and transfer opportunities, or if separation incentives are widely used. CBO did not have sufficient information to estimate the number of layoffs at other federal agencies.

**Summary Table 1.**
**Federal Civilian Employment, 1982-1992 (In thousands of workers)**

| | 1982 | 1986 | 1987 | 1992 | Change, 1982-1992 Thousands of Workers | Change, 1982-1992 Percent |
|---|---|---|---|---|---|---|
| Legislative and Judicial Branches | 55 | 56 | 57 | 66 | 11 | 20 |
| Executive Branch | | | | | | |
| Department of Defense | 1,028 | 1,112 | 1,133 | 1,006 | -22 | -2 |
| Civilian agencies | 1,131 | 1,119 | 1,124 | 1,235 | 104 | 9 |
| Total | 2,159 | 2,231 | 2,257 | 2,241 | 82 | 4 |
| All Branches | 2,214 | 2,288 | 2,314 | 2,307 | 93 | 4 |

SOURCE: Congressional Budget Office using data provided by the Office of Personnel Management.

NOTES: Defense figures represent employment at the end of the year. Totals for civilian agencies are averages of monthly employment counts. Data cover all work schedules, geographic areas, and agencies except the U.S. Postal Service, the Central Intelligence Agency, and other, smaller agencies.

# Costs and Savings from Cutting Employment

Each of the major approaches to cutting staff analyzed in this study has costs. The magnitude of these costs varies among the approaches and can be substantial. CBO's analysis suggests, however, that cost may not be a paramount concern. Permanent cuts in staff eventually save money. CBO's near-term cash estimates show net savings over five years for each of the methods of separating workers. The long-term estimates, which consider the effects of separating workers that occur beyond the period covered by standard five-year estimates, show savings far exceeding costs. Of course, arbitrary, or across-the-board, cuts may cause backlogs and delays and leave the government with little in the way of savings.

## Estimating the Costs and Savings of Abolishing Jobs

Both the near- and long-term estimates compare the savings in pay and benefits the government achieves when it abolishes a job with the costs of separating the worker in that job. The savings estimates assume that the positions abolished have an average salary of $34,500 in 1994, which corresponds to the average at DoD. The analysis assumes that the same position is abolished under each strategy for cutting staff. The implicit assumption made is that agencies reassign the remaining workers so that even though different workers leave under each strategy, ultimately the same job is abolished and the same savings are obtained. Thus, all strategies yield the same gross savings.

The gross savings estimates also incorporate the government's cost for health insurance and retirement. As regards retirement, the near-term cash estimates incorporate amounts saved because of reduced contributions by employers to the Thrift Savings Plan, which is part of the Federal Employees' Retirement System (other retirement contributions to federal retirement systems occur between budget accounts and do not affect near-term cash disbursements). Long-term estimates, however, cover the full, lifetime costs to the government of providing pensions to employees.

In contrast, costs charged against these gross savings vary because each strategy has unique implementation costs and affects different employees. Using data from DoD, whose average civilian worker has a profile similar to that of the average for all government workers, CBO prepared cost estimates for each strategy. In some cases a particular agency's costs may differ from those estimates. The effects on the work force may also differ among agencies. In such cases, CBO's ranking by cost might not indicate the true merits of alternative strategies. In any given reduction, moreover, agencies may use more than one approach. The estimates simply set out the major costs and basic cost principles that pertain to each method of separation.

## Cash Costs and Savings in the Near Term

The near-term estimates cover changes in the government's cash disbursements over five years. These estimates reflect both the costs associated with separating employees under various methods and the savings in pay and benefits that result. Based on CBO's near-term estimates, the government may save more by separating workers through a hiring freeze or a layoff than through early retirement (see Summary Table 2). Over the long term, however, early retirement may actually be a bargain for government, as described in the next section. The near-term cash cost of early retirement is high because the option results in recurring costs--the early-retirement pension--rather than the largely one-time costs that occur under a freeze or layoff.

**Costs and Savings of Laying Off Workers.** The most direct method of cutting employment is to lay off people through what the government refers to as a reduction in force, or RIF. The costs for this option--$18,000 per job abolished in the first year and $19,600 over five years--consist largely of benefits available to affected workers. One of the largest costs--$4,500--is for severance payments to workers who have been fired. Net savings total $19,700 per separated worker in the first year and $183,000 over five years.

**Costs and Savings of a Hiring Freeze.** In lieu of firing employees, the government can wait for the required number of employees to leave voluntarily for retirement, new jobs, or other reasons and then not replace some or all of them. To reduce the work force by 3 percent to 4 percent a year, an agency would have to limit replacement to two of every three workers who left. According to CBO's estimates, the average cost per job abolished of such a freeze on hiring is $24,300, all of which occurs in the first year. Net savings total $13,400 per job abolished in the first year and $178,400 over five years. Almost the entire cost of this option covers the pay and benefit costs the government incurs as it waits for employees to leave. The estimate also includes $5,400 for retraining and relocation.

**Costs and Savings of Early Retirement.** The Office of Personnel Management may grant agencies facing major cutbacks the authority to offer employees the opportunity to retire at a younger age and with fewer years of service than they would have otherwise needed to qualify for retirement. In so doing, an agency frees up positions it can use to help meet employment reduction goals without layoffs. CBO has estimated the cost of this option to be $20,800 per job abolished in the first year and $77,000 over five years. Net savings over five years total $125,600 per job abolished. Almost all of the considerable cash cost of this option reflects the payment of pensions to employees who leave the federal work force earlier than they would have without the early-retirement program.

**Costs and Savings of Offering Cash Incentives.** The Defense Authorization Act of 1993 provides the Secretary of Defense with the authority to offer employees who resign or retire during the next five

**Summary Table 2.**
***Cash Costs and Savings of Strategies for Cutting Employment***
**(In thousands of dollars per job abolished)**

| | Layoff | | Hiring Freeze | | Early Retirement | |
|---|---|---|---|---|---|---|
| | First Year | Five-Year Cumulative | First Year | Five-Year Cumulative | First Year | Five-Year Cumulative |
| Total Savings in Pay and Benefits | 37.7 | 202.6 | 37.7 | 202.6 | 37.7 | 202.6 |
| Costs of Separating Workers | | | | | | |
| Holding cost | n.a. | n.a. | 18.8 | 18.8 | n.a. | n.a. |
| Severance pay | 4.5 | 4.5 | n.a. | n.a. | n.a. | n.a. |
| Relocation | 3.5 | 3.5 | 3.5 | 3.5 | n.a. | n.a. |
| Leave refunded | 1.4 | 1.4 | n.a. | n.a. | n.a. | n.a. |
| Retraining | 1.9 | 1.9 | 1.9 | 1.9 | n.a. | n.a. |
| Retirement refund | 1.7 | 1.7 | n.a. | n.a. | n.a. | n.a. |
| Grade retention | 4.8 | 6.5 | n.a. | n.a. | n.a. | n.a. |
| Administration | 0.1 | 0.1 | n.a. | n.a. | n.a. | n.a. |
| Change in pension disbursements | n.a. | n.a. | n.a. | n.a. | 20.8 | 77.0 |
| Total | 18.0 | 19.6 | 24.3 | 24.3 | 20.8 | 77.0 |
| Net Costs (-) or Savings | 19.7 | 183.0 | 13.4 | 178.4 | 16.8 | 125.6 |

SOURCE: *Congressional Budget Office.*

NOTE: n.a. = not applicable.

years a lump-sum cash payment of $25,000 or severance pay, whichever is less. The intent is to encourage voluntary separations and avoid layoffs. These incentives greatly increase the cost of separating a worker. (For CBO's estimates of the cash cost of offering employees the opportunity to take early retirement, take regular retirement, or resign with an incentive such as the one in use at DoD, see Summary Table 3.) The costs associated with such an effort, primarily because of the cost of the cash incentives, more than offset savings in pay or benefits in the first year. Over five years, however, savings from lower salaries and benefits exceed costs under each alternative. (Official cost estimates of recent legislative proposals concerning cash incentives do not take into account savings in pay and benefits because the proposals only increase retirements or resignations; they do not require reductions in the work force.)

**Summary Table 3.**
**Costs and Savings of Offering Employees Cash Incentives to Separate (In thousands of dollars per layoff avoided)**

| | First Year | Five-Year Cumulative |
|---|---|---|
| Total Savings in Pay and Benefits | 37.7 | 202.6 |
| Costs of Separating Workers | | |
| Early retirement | | |
| Change in pension disbursements | 20.6 | 80.0 |
| Cost of incentive | 40.0 | 40.0 |
| Total | 60.6 | 120.0 |
| Retirement | | |
| Change in pension disbursements | 20.6 | 35.2[a] |
| Cost of incentive | 56.3 | 56.3 |
| Total | 76.8 | 91.5 |
| Resignation | | |
| Refund of unused leave | 2.8 | 2.8 |
| Refund of retirement contributions | 15.3 | 15.3 |
| Cost of incentive | 24.9 | 24.9 |
| Total | 43.0 | 43.0 |
| Net Costs (-) or Savings | | |
| Early retirement | -22.9 | 82.6 |
| Retirement | -39.2 | 111.2 |
| Resignation | -5.3 | 159.6 |

SOURCE: Congressional Budget Office.

a. This cost, as described in the discussion of early retirement, represents the difference between the pension earned and the pension that would have been earned. As these employees would probably have retired eventually anyway in the absence of an incentive, the cost is low compared with that of early retirement.

What can make incentives so expensive is that organizations may end up paying many more employees to leave than they have layoffs to avoid. For example, agencies may offer incentives broadly to ensure equity, and payments may also go to employees who would have left anyway but who nonetheless qualify to receive an incentive. CBO's estimates of incentive payments assume that agencies pay bonuses to all employees who would be laid off and to half of all employees who would leave if incentives were not offered.

Of course, policymakers may feel that the added costs of incentives are justified as a means of avoiding the hardships that layoffs cause for both workers and managers. Incentives can be particularly helpful in avoiding layoffs when proposed reductions are concentrated by location, occupation, or agency. Some reductions proposed by the NPR would fall in that category.

## Long-Term Costs and Savings

The effects of abolishing a job and separating a worker extend well beyond the period covered by CBO's standard five-year estimates. The impact of

**Summary Table 4.**
**Long-Term Costs and Savings of Strategies for Cutting Employment**
**(In thousands of 1994 dollars per job abolished)**

| | | | | With Incentive | | |
|---|---|---|---|---|---|---|
| | Layoff | Hiring Freeze | Early Retirement | Early Retirement | Retirement | Resignation |
| Total Savings in Pay and Benefits | 979.9 | 979.9 | 979.9 | 979.9 | 979.9 | 979.9 |
| Costs of Separating Workers | | | | | | |
| Holding cost | n.a. | 22.7 | n.a. | n.a. | n.a. | n.a. |
| Severance pay | 4.5 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Administration | 0.1 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Relocation | 3.5 | 3.5 | n.a. | n.a. | n.a. | n.a. |
| Retraining | 1.9 | 1.9 | n.a. | n.a. | n.a. | n.a. |
| Grade retention | 6.4 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Leave refunded | 1.4 | n.a. | n.a. | n.a. | n.a. | 2.8 |
| Annuity cost | | | | | | |
| Annuity | 10.8 | n.a. | 309.5 | 309.5 | 210.6 | 15.9 |
| Annuity given up | n.a. | n.a. | 317.3 | 319.8 | 184.9 | n.a. |
| Subtotal | 10.8 | n.a. | -7.8[a] | -10.3[a] | 25.7 | 15.9 |
| Incentive payment | n.a. | n.a. | n.a. | 40.0 | 56.3 | 24.9 |
| Total | 28.7 | 28.1 | -7.8[a] | 29.7 | 81.9 | 43.6 |
| Net Costs (-) or Savings | 951.2 | 951.8 | 987.7 | 950.2 | 897.9 | 936.2 |

SOURCE: Congressional Budget Office.

NOTES: Costs and savings are given on a present-value basis.

n.a. = not applicable.

a. Savings.

changing a person's retirement plans under an early-retirement program, for example, extends far into the future. Accordingly, CBO also prepared estimates of the long-term costs and savings for different methods of separating workers. These estimates are given in their present value--defined as the total amount of funds needed today to meet all future payments, taking into account the interest that those funds would earn over the period.

Over the long term, early retirement represents a better deal for the government than the short-term estimates indicate. The estimates show that an early-retirement pension stream is lower than the regular-retirement stream it replaces--to the tune of $7,800 per job abolished (see Summary Table 4). The same observation probably explains why few workers accept an offer of early retirement. The highest cost--$81,900 per job abolished--is incurred when a worker eligible for regular retirement leaves with an incentive payment.

These costs, however, seem small in comparison with the savings available when the government abolishes a job for an extended period of time. Over 30 years, savings in pay and benefits for an average position abolished total $980,000--many times the costs. (Consistent with the method adopted in calculating near-term effects, the long-term effects assume that the same job is abolished, and the same gross savings therefore accrue under each method of separating workers. In this analysis, however, savings are appropriately discounted.) The large savings under all alternatives over the long term suggest that cost may not be the most important consideration in determining how to separate workers.

The savings estimates cover the reductions in pay and benefits that the government achieves over 30 years by abolishing a job. The savings also reflect the full cost to government of employee retirement and other benefits. The cost estimates cover the various expenses the government incurs in abolishing jobs. As described in the discussion of the near-term cash effects, these expenses include such things as severance pay and relocation costs.

The major difference between the near-term and long-term estimates is the treatment of retirement costs. The long-term estimates cover the full difference in the government's cost of paying a pension now as opposed to later, rather than only the difference in the next five years.

CBO's analysis suggests that the ranking of various strategies depends heavily on how and over what period one chooses to measure. Near-term costs are very different from those incurred over an employee's full 30-year career. The perspective adopted depends, in part, on whether reductions in employment are likely to be sustained over the long term. Should reductions be made permanent, savings will be many times greater than near-term costs. Given these differences, CBO's analysis suggests that the government should give equal weight to the non-cost-related consequences of the different strategies.

## Managing Employment Reductions

Agencies facing reductions in civilian employment are typically concerned not only with cost but also with minimizing layoffs, ensuring fairness to employees, preserving needed skills, and preventing increases in average salary. Many people believe that layoffs must be avoided because of their potential negative effects on morale, that early retirement cannot attract sufficient workers to be a useful alternative, and that hiring freezes increase average salary and eliminate needed skills. Separation incentives are seen as a way to avoid these potential problems.

The Congressional Budget Office's analysis of these issues suggests that with careful management, government agencies can, with only a modest number of layoffs, accommodate personnel drawdowns of several percent a year by relying on partial hiring freezes. If drawdowns are large or highly concentrated in time or by occupation or region--as could be the case given current budgetary constraints and the reductions proposed by the NPR--agencies would probably find it harder to reduce employment without laying off more workers. In such cases, separation incentives could help to avoid layoffs. These conclusions stem largely from analysis of DoD's

recent experience with both concentrated and more dispersed reductions in civilian employment. They assume that turnover rates are at historical levels.

## Layoffs

CBO found that even with steady decreases in employment of several percent annually, layoffs are likely to be small--less than 1 percent of the work force. Nevertheless, agencies are concerned about using layoffs, primarily because of effects on the morale of the remaining work force. Negative effects on morale can be mitigated, however, by informing workers early and involving employees in reorganizations.

The other chief concern about layoffs is the equity issue--the possibility that female and minority workers are more likely to be laid off and that the work force will become less diverse. Based on DoD's experience, which workers are most likely to be laid off depends more on where reductions in the work load occur rather than on the sex or race of the workers. At DoD, for example, men were more likely to be laid off because most of the jobs abolished were in the predominantly male, blue-collar work force. Even in the case of the white-collar work force, which is made up of equal numbers of men and women, layoffs were proportional.

## Hiring Freezes

If managed effectively, partial hiring freezes--that is, replacing a fraction of the workers who leave--can both reduce employment and minimize layoffs. To ensure that essential work is not affected, agencies seldom use complete hiring freezes. Under a partial hiring freeze, managers can adopt different replacement rates for different occupations to ensure that there are sufficient workers with the appropriate skills to carry out work requirements. Although limiting replacement modestly increases the average salary of workers, such increases may be offset by policy changes such as limiting promotions. Moreover, increases in average salary are small compared with savings in payroll (total salary) resulting from decreases in the size of the work force.

Reductions at DoD reflected both gradual, dispersed decreases and more rapid or concentrated decreases resulting from a sharp drop in work load, management reforms, or base closures. Reductions in other agencies may reflect a different mix of circumstances. The more concentrated the reductions are in time, by occupation, or by location, the more difficult it tends to be for agencies to rely primarily on hiring freezes.

## Early Retirement

Under an early-retirement option, employees can retire at a younger age and with fewer years of service than under regular retirement. Applied broadly, early retirement can create employment opportunities for workers facing layoffs and reduce employment moderately, even if only a small fraction of eligible workers decide to retire early.

# Separation Incentives

Incentives are seen as a way for organizations facing employment reductions to avoid a large number of layoffs, provide a "soft landing" for workers who lose their jobs, and reshape the work force. The U.S. Postal Service and the Department of Defense both offered incentives to substantial numbers of employees in 1992 and 1993. To help agencies meet employment reductions proposed in the NPR, the Congress is currently considering extending to all other agencies the authority to offer incentives.

CBO's analysis of recent experience at the Postal Service and DoD suggests that separation incentives have helped these agencies to minimize layoffs, increase voluntary turnover, and eliminate particular positions. Nonetheless, DoD still had to lay off 3,000 workers, and the work forces of both agencies experienced some disruptions caused by extensive transfers of workers who were in abolished jobs. Moreover, turnover appears to have increased above normal rates only enough to offset the lower turnover experienced before the period in which incentives were offered.

Finally, agencies may have considerable difficulty in targeting incentives toward workers who are no longer needed and may therefore incur a relatively high cost for each job abolished. Legislation that would extend the authority to offer separation incentives to other agencies would permit agencies to target payments toward particular organizations, occupations, and locations. If such legislation is enacted, agency policymakers will need to evaluate their particular circumstances in order to decide which method of reducing the size of their work force is most appropriate.

Chapter One

# Introduction

More than 2 million people hold civilian jobs with the U.S. government. In recent years, federal agencies have confronted the need to cut employment--an activity widely referred to as downsizing. At the Department of Defense (DoD), cutbacks recognize changing U.S. national security needs, budget reductions, and efforts to close and consolidate military bases and increase efficiency. At nondefense agencies, reductions have followed primarily from budgetary considerations.

A variety of plans and legislative proposals call for continued reductions in government. In February 1993, for example, President Clinton instructed agencies to cut employment by 100,000 through 1995 (see Box 1). The National Performance Review (NPR) estimates that its recommendations could raise this total to more than 250,000. As efforts to reduce the budget continue, such measures will almost certainly increase in number. In its quest to find ways to economize through employment reductions, the government joins company with many private-sector firms.

When the subject of cutting employment arises, many people think of layoffs--what the government refers to as reductions in force. But the government has other alternatives. It can, for example, choose not to fill some or all of the positions that become vacant as a result of the retirements, resignations, and other separations that routinely occur. The federal government has often used such freezes in hiring to cut employment. Agencies undergoing reductions can also offer employees the choice of early retirement by reducing the years of service and age required to retire. The Office of Personnel Management (OPM) has permitted DoD, for example, to offer early retirement at facilities near other facilities that are experiencing cutbacks; the jobs vacated by early retirees would then provide job opportunities for employees facing a layoff. The Defense Authorization Act of 1993 gave DoD authority to offer employees cash payments to encourage them to resign, retire, or retire early. The bonuses provided are the lesser of severance pay or $25,000. The Congress may soon extend similar authority to civilian agencies.

Each of these major approaches to cutting employment has consequences for both the near-term costs to government (see Chapter 2) and its long-term liabilities (see Chapter 3). As described in Chapters 4 and 5, each approach also affects the composition of the work force and its ability to get work done.

The Congressional Budget Office's (CBO's) analysis begins at the point at which agencies let employees go and considers the advantages and disadvantages of different methods by which the government might accomplish such a task. It does not explore in depth the origins of decisions to cut staff or the implications of employment cuts for agency operations.

**Box 1.**
**Current Planning and Recent Proposals for Reducing the Work Force**

Actions planned, proposed, or recently taken concerning the size of the federal work force all share the objective of holding the line or cutting back on the number of federal civilian employees.

President Bush's budget for 1993 proposed to hold employment for civilian agencies at the 1992 level and to continue the reductions already under way at the Department of Defense (DoD). In Executive Order 12839 of February 10, 1993, however, President Clinton instructed agencies to cut employment (measured so that all work schedules are translated to their full-time equivalent) by about 100,000, or 5 percent, over the three-year period from 1993 through 1995. At DoD, employment would drop, according to the Administration's budget numbers, by 62,000 from the 1993 base level of 927,200, a reduction of about 7 percent. Employment at civilian agencies would fall by 3 percent over the period, from the base level of 1.22 million. Four agencies together would contribute about half of the 40,000 reductions planned for civilian agencies--the Department of Veterans Affairs (6,700), the Department of Health and Human Services (5,200), the Department of Agriculture (4,300), and the Department of Justice (3,900). President Clinton proposes to make these cuts without layoffs.

The Congressional Budget Office estimates that this proposal would save $16.6 billion from payrolls projected through 1998. The National Performance Review recommends reform in personnel, procurement, and other federal management activities that it believes would permit additional employment cuts that could total over 150,000 for the 1996-1999 period. In addition, legislation proposed in the Senate (S. 255) calls for a similar 5 percent cut but over five years.

Other initiatives also have the potential to reduce employment. In Executive Order 12837 of February 10, 1993, President Clinton instructed agencies to cut travel, printing, and other administrative expenses by 14 percent through 1997. Legislation in the House of Representatives (H.R. 1126) proposes similar five-year reductions in the overhead expenses of agencies.

The U.S. Postal Service also has confronted the need to cut back. Between August and December 1992, it carried out a sweeping reorganization that targeted over 30,000 management and other white-collar jobs for elimination (see Chapter 5).

A number of different circumstances may lead an agency to cut employment. Such an action may follow from efforts to improve efficiency by contracting out some of the work, reorganizing, automating operations, or by using other measures. Cuts in employment may also result from changes in mission or a declining work load. Finally, such cuts may reflect decisions that agencies may simply have to get by with less because of limited resources.

Any of these reductions may lead to improved operations--or they may lead to backlogs, delays, and services of poor quality. For example, investments in new technology may prove to be either a boon to efficiency or a costly folly; agencies may cut the right employees in the face of a declining work load or they may not. Predicting the particular circumstances surrounding the actions agencies plan to take is problematic. Accordingly, this analysis does not consider either the cost of major investments that may be needed to make successful reductions or the cost of problems that may arise if cuts are made carelessly. The report considers only the costs that pertain primarily to the different methods of making the required reductions.

# Composition of the Federal Work Force

As described in the remainder of this chapter, cuts in employment, whatever their consequences, will fall on a large and diverse work force. The federal civilian work force accounts for 2 percent of all workers in the United States. These civil servants, more than 2 million in all, earned pay and benefits in 1993 totaling more than $100 billion. They represent more than 850 different occupations, more than 100 different agencies direct their efforts, and dozens of different pay systems govern their wages and salaries.

Within this diversity and complexity, however, certain dominant characteristics help shape the work force. Just three federal agencies, for example, employ about 6 of every 10 federal workers--the Department of Defense, the Department of Veterans Affairs, and the Department of the Treasury (see Table 1). Although the DoD work force has declined in recent years, DoD remains the largest agency, employing about 4 of every 10 federal civilian workers.

Federal workers are relatively well educated, and over 80 percent are in white-collar jobs (see Table 2). About two-thirds of all workers hold jobs in occupations designated professional, administrative, or technical; administrative workers are the largest group. Among the larger job categories in these occupational groups are engineering and engineering support (about 10 percent of all white-collar workers), nurse and medical technician (about 6 percent of the total), and computer specialist (about 3 percent of the total). About 14 percent of all white-collar workers hold clerical jobs. Most of the workers not holding the white-collar jobs described above hold jobs in blue-collar occupations such as plumber and electrician. DoD is the largest employer of blue-collar workers, accounting for over 80 percent of the government total.

As the problems with which government is asked to deal have become larger and more complex, the work force has shifted into more skilled professional and administrative jobs. In 1980, about 37 percent of the civilian work force held such jobs; by 1992, that share had increased to 48 percent (see Table 2). At the same time, the educational attainment of the work force has risen. In 1980, 28 percent of the federal civilian work force had earned a bachelor's or higher degree. For 1992, the figure stood at 36 percent. A comparable figure for the national work force is about 27 percent. (Differences in data collection make precise comparisons difficult. The national data cover people 16 years and older who have four or more years of postsecondary education and are not in prisons, nursing homes, and other institutions.)

**Table 1.**
**Federal Civilian Employment, 1992**

| | Thousands of Workers | Percentage of Total |
|---|---|---|
| Legislative and Judicial Branches | 66 | 3 |
| Executive Branch | | |
| Department of Defense | 1,006 | 44 |
| Department of Veterans Affairs | 258 | 11 |
| Department of the Treasury | 170 | 7 |
| All other agencies | 807 | 35 |
| Total | 2,241 | 97 |
| All Branches | 2,307 | 100 |

SOURCE: Congressional Budget Office using data provided by the Office of Personnel Management.

NOTE: Totals for nondefense agencies are averages of monthly employment counts. Totals for the Department of Defense represent employment at the end of the year. Data cover all work schedules, geographic areas, and agencies except the U.S. Postal Service, the Central Intelligence Agency, and other, smaller agencies.

**Table 2.**
**Educational Attainment and Occupational Distribution of Federal Civilian Workers, September 1980 and September 1992**

| Occupational Group | Percentage of Work Force | | Percentage of Work Force with Bachelor's or Higher Degree | |
|---|---|---|---|---|
| | 1980 | 1992 | 1980 | 1992 |
| White-Collar Workers | | | | |
| Professional | 17 | 22 | 86 | 87 |
| Administrative | 20 | 26 | 44 | 48 |
| Technical | 17 | 19 | 13 | 14 |
| Clerical | 22 | 14 | 5 | 7 |
| Other | 2 | 2 | 7 | 11 |
| Total | 78 | 83 | 35 | 42 |
| Blue-Collar Workers | 22 | 17 | 1 | 2 |
| All Occupations | 100 | 100 | 28 | 36 |

SOURCE: Congressional Budget Office using data provided by the Office of Personnel Management.

NOTE: Data cover full-time employment for all agencies except the U.S. Postal Service, the Central Intelligence Agency, and other, smaller agencies.

# Growth of the Work Force over the Past Decade

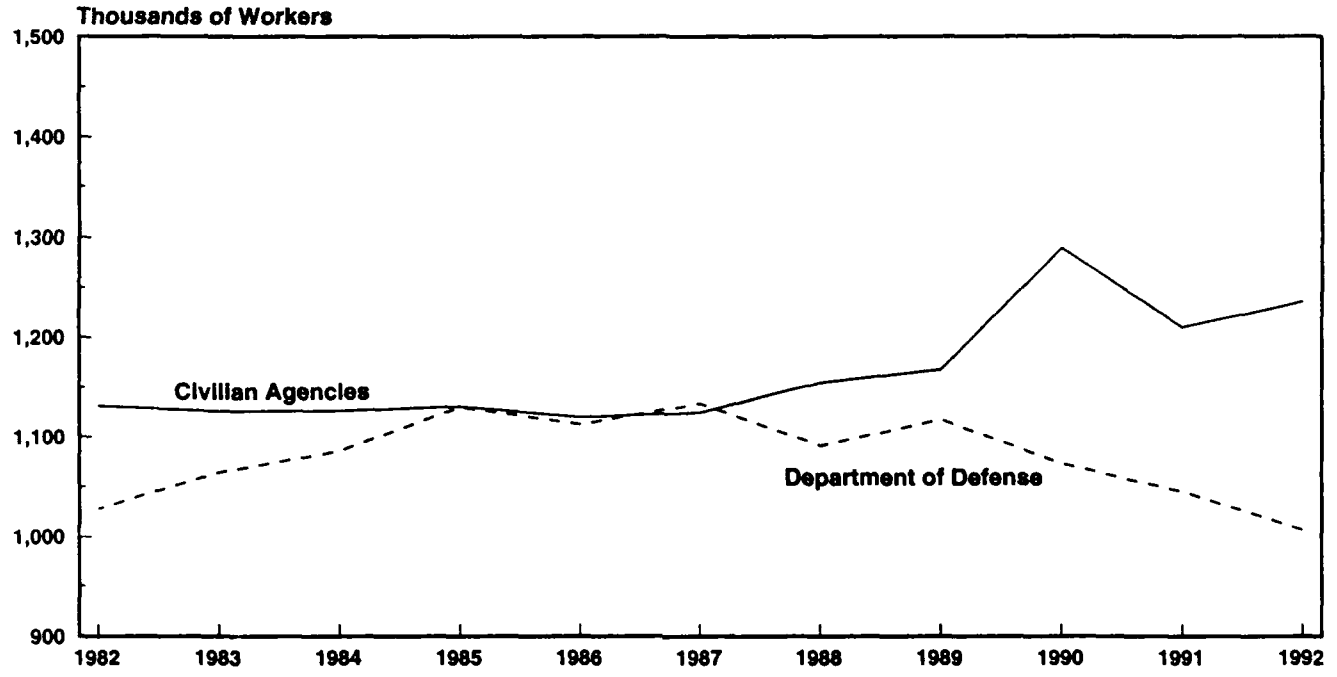
Over the 1982-1992 period, federal employment grew by about 4 percent--from 2.2 million to 2.3 million--an average annual increase of less than one-half of one percent. Such a rate of growth contradicts the common view of the civil service as being under constant rapid expansion.

The decade was characterized by a marked contrast in patterns of growth in federal employment (see Figure 1). Until the middle of the decade, steady and large increases in DoD's civilian employment were partly offset by modest and somewhat erratic decreases at other agencies in the executive branch. Employment at civilian agencies decreased between 1982 and 1986 by about 12,000, or 1 percent. Growth in DoD's employment peaked in 1987 at 10 percent above the 1982 level. This pattern of change reflects the Reagan Administration's policy of de-emphasizing and streamlining nondefense activities while building U.S. military capabilities.

The second half of the 1980s was marked by the reverse trend: changes in U.S. national security needs led to cuts in defense employment that partly offset increases for civilian agencies driven largely by the greater demand for federal services. From its nadir in 1986, employment at civilian agencies rose by 116,000, or 10 percent; from its high point in 1987, employment at DoD dropped by 127,000, or about 11 percent (see Table 3).

For the entire 1982-1992 period, civilian executive branch agencies experienced a net increase in employment of 104,000, or 9 percent. DoD experienced a net decrease of 22,000, or 2 percent (see Table 3 and Appendix A).

**Figure 1.**
**Civilian Employment in the Executive Branch**




SOURCE: Congressional Budget Office using data provided by the Office of Personnel Management.

## Employment at Civilian Agencies

Within the overall net increase in employment, some civilian agencies lost and some gained. The contrasting pattern reflects, in part, the conflicting pressures on government. On the one hand, some agencies have had to cope with limited budgets and successive Administrations that have sought to streamline and restrain the activities of civilian agencies. On the other hand, the demand for many government services and the work loads of many agencies have risen.

Among civilian agencies, the largest decrease in employment--totaling 18,000, or 12 percent--occurred at the Department of Health and Human Services. That decrease primarily reflects the computerization of work at the department's Social Security Administration. By contrast, major and consistent increases in employment occurred at the Departments of the Treasury, Justice, and Veterans Affairs. At the Treasury, employment rose by 48,000, or 39 percent (see Table 3). Nearly all of the increase occurred at the Internal Revenue Service, reflecting efforts to cope with the growing number of returns filed and to increase compliance with tax laws. At Justice, employment grew by 39,000, or 71 percent, as part of federal efforts to control drug-related and other crime and to oversee the growing federal prison population. At Veterans Affairs, employment expanded by 23,000, or 10 percent, to cope with the rising demand for medical and other services for the aging veteran population.

## Employment at DoD

Civilian employees at DoD provide the daily support required to maintain U.S. defense capabilities.[1] Only 8 percent of DoD's civilian workers provide direct support to DoD's strategic, tactical, and other military forces. The remainder provide a variety of other support services.

1. Military personnel provide most of the immediate support required during deployment--for example, flight maintenance.

About 56 percent are engaged in just two types of activities--repairing and maintaining weapon systems at depots (referred to as central logistics) and providing a wide range of administrative and "housekeeping" services at military installations (referred to as base operating support). Such support services range from administration of the payroll to snow removal. The remainder either provide classroom training or medical services to military personnel or provide or administer other centralized support activities.

The 10 percent growth in the number of civilian personnel at DoD for the 1982-1987 period was in part a response to the growth of the military forces that civilian employees support. During that period, the number of active-duty military personnel (excluding reserve personnel who provide full-time support to reserve forces) grew by 3 percent. The growth in civilian personnel also reflected the higher levels of maintenance needed at bases and depots to support the slightly larger military force and the increased training adopted in the 1980s. The effects of these changes can be seen in the growth of the number of civilians providing direct support to strategic and tactical forces (11 percent) and central logistics (11 percent) (see Table 4).

Other increases in the DoD civilian work force are less clearly tied to readiness concerns and occurred in a variety of support activities. For example, personnel services--which include teaching military dependents in overseas schools, running child care centers for military personnel, and recruiting--grew rapidly between 1982 and 1987.

**Table 3.**
**Federal Civilian Employment, 1982-1992 (In thousands of workers)**

| | 1982 | 1986 | 1987 | 1992 | Change, 1982-1992 | |
|---|---|---|---|---|---|---|
| | | | | | Thousands of Workers | Percent |
| Legislative and Judicial Branches | 55 | 56 | 57 | 66 | 11 | 20 |
| Executive Branch | | | | | | |
| Defense | 1,028 | 1,112 | 1,133 | 1,006 | -22 | -2 |
| Civilian agencies | | | | | | |
| Health and Human Services | 149 | 137 | 130 | 132 | -18 | -12 |
| Treasury | 122 | 138 | 147 | 170 | 48 | 39 |
| Justice | 55 | 65 | 68 | 95 | 39 | 71 |
| Veterans Affairs | 235 | 244 | 246 | 258 | 23 | 10 |
| Other | 570 | 535 | 533 | 580 | 10 | 2 |
| Subtotal | 1,131 | 1,119 | 1,124 | 1,235 | 104 | 9 |
| Total | 2,159 | 2,231 | 2,257 | 2,241 | 82 | 4 |
| All Branches | 2,214 | 2,288 | 2,314 | 2,307 | 93 | 4 |

SOURCE: Congressional Budget Office using data provided by the Office of Personnel Management and the Department of Defense.

NOTE: Totals for nondefense agencies are averages of monthly employment counts. Totals for the Department of Defense represent employment at the end of the year. Data cover all work schedules, geographic areas, and agencies except the U.S. Postal Service, the Central Intelligence Agency, and other, smaller agencies.

The 11 percent drop in DoD's civilian employment from 1987 through 1992 reflects a number of factors. Changes in national security requirements after the dissolution of the Soviet Union have led to smaller defense budgets, smaller military forces, and consequently a smaller work load for civilian personnel. Between 1987 and 1992, the number of active-duty military personnel decreased by 17 percent. In part reflecting this drop, the number of civilians directly supporting military forces and the number providing base operating support fell by 14 percent and 27 percent, respectively, and the number repairing equipment fell by 11 percent (see Table 4).

The decline in the number of civilian employees in these activities since 1991 has been accelerated by a variety of management reforms designed to improve efficiency and decrease the size of both the military and the civilian work forces. Base closures recommended by the Presidentially appointed Defense Base Closure and Realignment Commissions of 1988, 1991, and 1993 have just begun to occur and have contributed only slightly to decreases in employment at DoD over the period considered here, but they will probably be a driving force for future reductions.

In contrast to the pattern of steep declines described above, other activities show smaller declines or increases. The number of civilians providing support in headquarters changed little between 1987 and 1992. Medical and personnel services increased by 16 percent, reflecting in part a policy to encourage those eligible for military health care to use military rather than private facilities so as to make fuller use of them. Other activities, such as communications and intelligence and research and development, have continued to grow because of large investments in equipment and continued emphasis on these areas.

**Table 4.**
**Change in DoD's Civilian Employment, by Mission, 1982-1992**

| | Thousands of Workers | | | Percentage Change | |
|---|---|---|---|---|---|
| | 1982 | 1987 | 1992 | 1982-1987 | 1987-1992 |
| Strategic, Tactical, and Other Support Forces | 83.4 | 92.2 | 78.9 | 10.6 | -14.4 |
| Central Logistics | 326.0 | 363.2 | 323.3 | 11.4 | -11.0 |
| Base Operating Support | 328.0 | 331.6 | 243.8 | 1.1 | -26.5 |
| Training and Education | 26.0 | 31.1 | 27.1 | 19.6 | -12.9 |
| Medical and Personnel Services | 60.6 | 71.7 | 82.9 | 18.3 | 15.6 |
| Headquarters and Centralized Support | 95.9 | 124.2 | 125.4 | 29.5 | 1.0 |
| Other[a] | 107.7 | 119.1 | 124.7 | 10.6 | 4.7 |
| Total | 1,027.6 | 1,133.1 | 1,006.1 | 10.3 | -11.2 |

SOURCE: Congressional Budget Office using data provided by the Department of Defense.

a. Includes civilians working in research and development and in communications and intelligence activities.

# Projected Layoffs in Government: Lessons from DoD

In the coming years, the fiscal problems of government along with changing defense requirements will almost certainly force some layoffs. Estimating how many people will lose jobs, however, is subject to considerable uncertainty. The numbers affected will depend not only on the overall level of reductions deemed necessary but also on the extent to which such reductions are concentrated in specific areas, agencies, and occupations. Programs put in place to avoid layoffs, such as bonus payments to workers who leave voluntarily and early-retirement options, will also influence the number of pink slips.

Although data limitations make it difficult to project layoffs for the civilian work force as a whole, CBO has prepared estimates for layoffs at DoD--the agency with the greatest potential for layoffs. These estimates do not take into account DoD's current use of separation incentives to reduce the number of layoffs. The estimates suggest that even without using such incentives, layoffs would average less than 1 percent of the DoD work force annually over the next five years.

This analysis does not incorporate the reductions under reforms in personnel, procurement, and other areas that were recently recommended by the NPR. Little detailed information about the distribution of reductions will be available until agencies put forth specific plans for carrying out the recommendations.

The NPR report includes a proposal to use cash payments to encourage employees to leave as a means of easing separation from government employment and avoiding layoffs. Success in avoiding layoffs will depend on a number of factors, including the speed with which reductions are made. Preliminary information suggests that cuts will not exceed 3.5 percent of the work force in any given year. Success in avoiding layoffs will also depend on how concentrated the reductions are. The NPR report proposes to target supervisory, personnel, budget, and other specific occupations, which increases the chances of layoffs. The various recommendations could also hit hard wherever entire installations are closed and where headquarters staff are located, including Washington, D.C.

## Future DoD Employment Levels

Based on President Clinton's budget for 1994 and DoD's recently completed review of U.S. military forces, CBO estimated that DoD's civilian work force would drop by 16 percent between 1992 and 1997, from 1,006,000 to 850,000 (see Table 5). (These reductions represent the net change--that is, the sum of increases in some areas and decreases in others.) If additional reductions in military force levels or further base closings are approved, DoD's work force could decline more.

With gradual decreases of 3 percent to 5 percent annually, layoffs of DoD employees would seem unnecessary since DoD's normal annual turnover--a term referring to resignations, retirements, and other voluntary separations--averages over 10 percent. Layoffs, however, depend not only on the overall size of decreases but also on their concentration in particular organizations, locations, occupations, or skill levels. Even if turnover occurs, it may not take place among the types of jobs or employees that an organization hopes to eliminate. Transfers, retraining, and the use of cash payments to encourage separations can all help to minimize layoffs.

The pattern of reductions at DoD suggests that some will be concentrated in certain areas. The decreases will be concentrated, and layoffs therefore more likely, when facilities close, management reforms reorganize functions or improve efficiency, or work loads decrease rapidly. For example, although DoD's overall decrease in 1993 is estimated to be 4 percent, the Navy's decrease is estimated to be 9 percent--double the overall rate. Even more dramatic is the cutback the Philadelphia Naval Shipyard faces in the same year--a reduction of 18 percent in its work force of 6,200 as ongoing ship repair is completed before the shipyard's scheduled closing in 1996. Similarly, Norfolk Naval Shipyard's employment level is projected to fall by 15 percent in 1993, reflecting not only decreases in the

**Table 5.**
**Change in DoD's Civilian Employment, 1992-1997 (In thousands of workers)**

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | Change, 1992-1997 Thousands of Workers | Change, 1992-1997 Percent |
|---|---|---|---|---|---|---|---|---|
| Total Employment | 1,006 | 964 | 919 | 896 | 873 | 850 | -156 | -15.5 |
| Change from Previous Year | | | | | | | | |
| Thousands of workers | n.a. | -42 | -45 | -23 | -23 | -23 | n.a. | n.a. |
| Percent | n.a. | -4.2 | -4.7 | -2.5 | -2.6 | -2.6 | n.a. | n.a. |

SOURCE: Congressional Budget Office using data from the President's 1994 budget and the testimony of Les Aspin, Secretary of Defense, before the Subcommittee on Defense of the Senate Committee on Appropriations, September 14, 1993.

NOTES: Estimates are totals as of the end of the year and therefore differ from the estimates in Box 1, which translate all work to its full-time equivalent.

n.a. = not applicable.

work load because a smaller Navy has fewer ships to repair but also a variety of efficiency measures adopted to perform the same amount of work with fewer personnel. Both shipyards are facing significant layoffs.[2]

Base closures are the clearest example of concentrated decreases. Three Presidentially appointed Defense Base Closure and Realignment Commissions recommended that some 249 DoD installations be closed and 147 be realigned between 1990 and 1997. DoD estimated that these closures and realignments would eliminate almost 40,000 civilian jobs between 1993 and 1997. (This and other estimates of job losses should not be confused with the net employment reductions in Table 5, which include the effect of both increases and decreases throughout DoD.) Since the Congress has accepted the recommendations of all three commissions, those decreases will occur. Another commission will meet in 1995 to consider additional closures and realignments.[3]

Beginning with the President's budget for 1991, DoD adopted a wide range of Defense Management Report (DMR) initiatives to improve efficiency by consolidating functions, increasing competition, streamlining headquarters, and making other management improvements. DoD estimated that together these DMR initiatives would eliminate almost 38,000 civilian jobs between 1993 and 1997.

Of the 76,000 jobs eliminated because of base closings and management reforms, CBO estimates that 17,800 would result in layoffs--a ratio of layoffs to jobs abolished of about 1 to 4. (CBO's estimate of the number of layoffs that are likely to result from these decreases is based on the method described in Appendix B.) CBO assumes that layoffs affect positions not vacated by voluntary separations, including the additional separations that occur when employees who are faced with layoffs leave. In addition, DoD estimates that a declining work load in depot mainte-

2. Data on decreases at Philadelphia and Norfolk Naval Shipyards are from Assistant Secretary of Defense for Force Management and Personnel, "Update to the April 1991 Five-Year Civilian Employment Plan," submitted in response to section 322(b) of the National Defense Authorization Act for Fiscal Year 1991 (June 1992).

3. Under the Defense Authorization and Base Closure and Realignment Act, if the Congress does not pass a joint resolution of disapproval, the commission's recommendations, as approved by the President, go into effect. Title XXIX, the Defense Base Closure and Realignment Act of 1990, required that the President appoint base closure commissions in 1991, 1993, and 1995.

**Table 6.**
**Estimated Layoffs of DoD Civilian Workers, 1993-1997**

| | 1993 | 1994 | 1995 | 1996 | 1997 | Change, 1993-1997 Number | Change, 1993-1997 Average Annual Percentage |
|---|---|---|---|---|---|---|---|
| Layoffs | 5,900 | 8,700 | 10,200 | 2,100 | 300 | 27,200 | n.a. |
| Layoffs as a Percentage of DoD Civilian Work Force[a] | 0.6 | 1.0 | 1.2 | 0.3 | b | n.a. | 0.6 |

SOURCE: Congressional Budget Office using data from the President's 1994 budget and the testimony of Les Aspin, Secretary of Defense, before the Subcommittee on Defense of the Senate Committee on Appropriations, September 14, 1993.

NOTES: Estimates are totals as of the end of the year and therefore differ from the estimates in Box 1, which translate all work to its full-time equivalent.

n.a. = not applicable.

a. Excludes foreign national workers who are not subject to U.S. personnel regulations.

b. Less than 0.05 percent.

nance and other services provided to the Army, Navy, and Air Force will require at least 9,400 layoffs through 1997.

## Likely Layoffs at DoD

CBO estimates that layoffs at DoD between 1993 and 1997 will total about 27,200. These estimates do not reflect the use of separation incentives, which could significantly reduce the number of layoffs. Layoffs peak in 1995 and fall off drastically thereafter, partly reflecting the greater uncertainty in projecting later years. Measured as a percentage of the total DoD civilian work force, annual reductions average about 0.6 percent and never exceed 1.2 percent in any year through 1997 (see Table 6). Notwithstanding their small role in overall DoD employment, however, layoffs clearly have significant effects in particular localities.

If normal separations fall--because economic circumstances reduce employment opportunities elsewhere or employees delay retirement in the hope of receiving separation incentives--layoffs could be higher. Layoffs could also be higher because of additional reductions in the defense budget, further base closures, and additional management initiatives, including any following from the recommendations of the National Performance Review. But fewer layoffs may be necessary if decreases in employment are more widely distributed than CBO has assumed, if DoD provides additional retraining or arranges more personnel transfers either within or between services, or if DoD offers cash incentives widely to create additional separations. Although such uncertainties increase the difficulty of estimating layoffs, the level of future layoffs in DoD or any agency will reflect not only the pace and concentration of reductions in the work force but also the extent to which separation incentives are used and the success of efforts to place workers who lose their job. CBO did not have sufficient information to estimate the number of layoffs at other federal agencies.

# Long-Term Trends

The government's immediate concerns focus on layoffs and other actions to halt or reverse the modest growth that has occurred in government recently, but in the longer run the rising average age

attention instead to how to keep workers. Because the work force is aging, by the turn of the century the government could begin to lose many of its most experienced workers to retirement. Although specific effects are hard to anticipate and many years off in some cases, action taken now regarding downsizing and other matters could affect the losses that agencies confront later.

According to the General Accounting Office (GAO), about 74 percent of the work force is age 35 or older, up from 66 percent in 1976. By comparison, 53 percent of workers outside government are 35 or older, compared with 50 percent in 1976.[4] OPM projects that the average age of the work force will continue to rise, thus causing a large increase in retirements beginning at about the turn of the century.[5] For some agencies, the increase could occur sooner. These projections assume that government does not expand greatly in the near future; expanding agencies will tend to have younger workers than stable organizations, all else being equal. The projections also recognize the large portion of the federal work force that is middle-aged and likely to stay in government at least until eligible for regular retirement at age 55. Currently, almost half of federal workers are between the ages of 36 and 50.

The departure of senior staff may not be all bad news for government. Overall, the reductions will most likely be small. OPM has projected that for about the first decade of the next century, retirements could jump on average by about 40 percent over current rates. Though large in percentage terms, the increase in departures would not approach a mass exodus from government. Even the highest annual rate of retirement over the past decade, in 1988, was only 3.1 percent of total average employment--representing the departure of some 56,000 workers that year. A 40 percent increase in this total would raise the annual rate to just over 4.4 percent.

In addition, the timing of retirements from government will correspond to the increase in the number of college graduates that is expected to occur after the turn of the century, meaning that a pool of skilled candidates would be available from which the government could find replacements. And younger workers would offer some advantages, including adaptability and a fresh perspective. An influx of new workers, therefore, might offer some agencies better opportunities for introducing new procedures, enhanced technology, and better organization.

Of course, overall averages hide the fact that some agencies may lose more workers than other agencies. Six major agencies--the Social Security Administration, the Bureau of Land Management, the Customs Service, the Department of Energy, the Department of Veterans Affairs, and the Bureau of Indian Affairs--have a larger portion of their work force at middle age than the rest of the government. Who leaves, moreover, may have as great an impact on agencies as how many. Even small losses could have big consequences for an agency if the losses were concentrated in particular programs or specialties. And although younger workers offer advantages, in some cases there is no substitute for experience.

Finally, decisions the government adopts now will help to determine the problems agencies face later. According to GAO, the aging of the work force and other demographic trends offer support for the adoption of stronger policies on family-oriented benefits such as child care and flexible work schedules.[6] GAO claims that such benefits expand the pool of workers available to replace civil servants who leave and increase the attractiveness of federal employment. Moreover, without such benefits, more workers could choose to seek employment elsewhere, compounding the separation problems that agencies already face.

How the government chooses to cut employment now could also affect the difficulties agencies face later as workers leave. Choosing to lay off workers and to freeze hiring tends to involve younger workers and could thus compound the aging problem at some agencies. At a minimum, trends in federal employment underscore the importance of planning for the work force.

4. General Accounting Office, *The Changing Work Force* (March 1992), p. 51.

5. Office of Personnel Management, *Federal Staffing Digest* (April 1991), pp. 1 and 7; and OPM, *Civil Service 2000* (June 1988), pp 20-22.

6. General Accounting Office, *The Changing Work Force*, p. 51

Chapter Two

# Costs and Savings of Cutting Employment

In time, a cut in employment, wisely made, will almost always save money by reducing the government's pay and benefit costs. The extent of savings reflects in part the methods chosen to achieve the reduction. Each method has certain costs associated with it; the costs of a layoff, for example, include severance pay and other benefits to separated workers.

This chapter examines the five-year cash costs and savings of three basic methods for cutting the number of employees--laying them off, adopting a hiring freeze, and offering early retirement. It also examines the costs and savings of offering employees cash incentives to leave. In addition to costs and savings, each of the strategies has advantages and disadvantages, which are described in Chapters 4 and 5.

Because a substantial portion of the costs and savings from reducing employment may occur well beyond the five-year period covered by standard Congressional Budget Office cost estimates, CBO also prepared estimates covering longer-term changes in federal liabilities (see Chapter 3). The analysis suggests that the relative cost advantage offered by the various strategies depends in part on the period of time considered. Based on an analysis of cash disbursements over five years, laying off workers or imposing a hiring freeze compares favorably with offering early retirement. Offering employees cash incentives to separate adds to the advantage of a layoff or a freeze relative to that of early retirement. When effects over the long run are considered, however, early retirement, with or without cash incentives, may offer significant advantages.

## Estimating the Costs and Savings of Various Strategies for Reducing Employment

CBO's estimates compare the savings the government achieves in pay and benefits when it abolishes a job with the costs it incurs to separate the required number of workers using different strategies. (Formal CBO estimates of the cost of specific legislative proposals are done differently, as described in Box 2.)

To ensure a fair comparison among strategies, CBO assumes that the government abolishes the same set of jobs under each method. Accordingly, the pay and benefit savings from which costs are deducted are identical under each strategy. The costs calculated for each strategy vary, however, because each has unique implementation costs and affects different employees.

How could the same jobs be abolished but different employees be affected? Consider a simple example of an agency that wants to abolish one junior accounting job. The agency might simply fire

**Box 2.**
**Assumptions Used in Formal CBO Cost Estimates**

The Congressional Budget Office (CBO) occasionally prepares cost estimates of specific legislation relating to early-retirement benefits or incentives for voluntary separation. A number of such bills have sought to add inducements to the existing laws on early retirement by increasing annuities or relaxing eligibility rules. Others would provide cash payments to induce additional retirements and to increase resignations.

In assessing the budgetary effects of early-retirement legislation, CBO typically considers the additional annuity costs resulting from increased retirements. CBO generally assumes that such proposals accelerate retirements but that people taking the incentive payment would have eventually retired under normal retirement rules. Thus, retirement costs increase in the near term. But since the annuities of early retirees are permanently reduced, long-term costs are lower. The CBO cost estimate of a proposal to provide cash incentives to induce retirements or resignations would include the cost of the incentives as well as any temporary increase in retirement annuities.

The cost estimates for these bills do not take into account the savings from the salaries of the workers who take the incentive, because the bills themselves only increase retirements or resignations; they do not automatically decrease the size of the work force. Put another way, incentives are a tool that can be used to reshape the work force, but they do not by themselves reduce it. Reductions are more commonly a result of decreasing overall funding or staffing levels in annual authorization and appropriation bills.

the employee in that job. Alternatively, it might offer early retirement to a senior worker and then reshuffle remaining workers until it has eliminated the targeted position. In both cases, the agency has eliminated the same job and achieved the same savings in pay and benefits.[1] It has, however, incurred very different costs to separate one worker. The costs of firing the employee are the severance pay and other benefits payable to a laid-off junior accountant; the costs of the alternative are associated with the retirement benefits payable to a more senior worker.

The CBO analysis considers costs and savings beginning at the point at which employees would start to leave government. The intention is to focus on costs that are particular to the different strategies rather than on costs that may depend on how an agency chooses to carry them out. The amount of planning that agencies put into reduction efforts, the amount of notice employees receive, the amount of time the work force has to respond to offers, and other, similar concerns will influence the outcome of reduction efforts but are beyond the scope of this analysis.

## Estimating the Savings from Abolishing Jobs

When abolishing jobs, the government can achieve substantial savings in pay and benefits. The characteristics associated with the jobs abolished are assumed to correspond to the average for the Department of Defense, the agency that has the most extensive experience with reducing employment. CBO's analysis assumes that regardless of the method selected for cutting staff, the work force would have the same basic distribution of jobs at each pay grade before and after the reduction.

Under this approach, the average salary associated with the jobs abolished is $34,500 in 1994, consistent with DoD data. The estimated five-year cash savings also incorporate CBO's projections of the government's cost of providing health insurance and retirement benefits to employees. For the five-year cash estimates, the total savings include an amount for reductions in outlays for the government's contributions to the Thrift Savings Plan, which is part of the Federal Employees' Retirement System (FERS).[2] The estimates assume that these

1. If one assumed instead that the employee in the position eliminated was the same as the employee who left, savings would vary depending on the workers assumed to be affected under each strategy.

2. The Federal Employees' Retirement System covers employees hired since January 1984 and others who elected to join. The Civil Service Retirement System predates FERS and covers most other federal workers. Under both systems, the government and employees can make various contributions toward future retirement benefits.

contributions total 1 percent of the payroll of the jobs eliminated.[3] Other contributions under FERS and the Civil Service Retirement System (CSRS) occur between budget accounts and do not affect cash disbursements.

The estimates of the long-term effects of cutting employment, by contrast, incorporate factors that reflect the government's long-term cost for federal retirement. These factors are described in Chapter 3.

## Estimating the Costs of Separating Workers

CBO charges the costs of separating employees against the pay and benefits saved. The type of costs that arise depends on the method of separation used. The costs of early retirement, for example, include the early-retirement pension, and the costs of a layoff include severance payments.

Where appropriate, CBO has projected costs under the different strategies using a model developed for the Department of the Army and revised by CBO.[4] The basic assumptions in this model generally reflect experience at DoD. The model determines the characteristics of workers affected by each strategy. Characteristics such as age and years of service help determine the level of many costs analyzed by CBO. The size of a pension earned under an early-retirement program, for example, will depend on the employee's age, salary, and years of service. The Army model determines who leaves on the basis of both historical data and an analysis that compares the returns an employee can expect for continuing to work with those available for leaving. An employee is assumed to separate if the returns for doing so are higher than for continuing to work (see Box 3).

Many of the cost estimates, particularly the long-term estimates, also depend on assumptions about the future behavior of affected workers. Pension costs charged to the layoff option, for example, reflect assumptions about the number of workers who would take deferred pensions. Most of these assumptions reflect an analysis of patterns in historical data from a variety of sources including DoD and the Office of Personnel Management. For costs that depend on neither the characteristics of the worker nor predictions of behavior--for example, the administrative costs of a layoff--the Army model also generally relies on an analysis of historical data.

## Using CBO Estimates

The cost estimates that CBO prepared for each strategy do not necessarily apply in every case of employment reduction. All such estimates are extremely sensitive to basic assumptions about a multitude of variables--for example, the age, length of service, and salary of the workers affected by employment cuts. The estimates represent one series of possible outcomes that set out basic costs and consequences that decisionmakers might consider when the need arises to cut staff. CBO made no effort to capture every cost that occurs under each of the strategies but believes its estimates recognize the major costs. The analysis focuses on the costs to the government as a whole. Effects on agency budgets would be different because certain disbursements, such as pensions, are not made from agency accounts.

Moreover, reliance on DoD's experience suggests that results would have to be modified for agencies with circumstances very different from those DoD faced. DoD has had the most extensive experience to date with cutting employment, and the profile of its workers is close to that of workers in nondefense agencies. DoD is different, however, in that a significant portion of reductions in employment there reflect decreases in work load.

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3 Under the FERS Thrift Savings Plan, the government contributes an amount equal to 1 percent of pay whether or not an employee contributes. Employees in FERS may, however, contribute up to 10 percent of pay, with matching contributions from the government for part of the amount contributed. The CBO estimate, therefore, is at the low end of the possibilities for a FERS employee. The government does not make a contribution to the savings plan for employees under the Civil Service Retirement System.

4 The Army Civilian Downsizing Model was developed for the Army by PRC, Inc., of Reston, Virginia, and MTL Services International, Inc., of Annandale, Virginia. The version used by CBO incorporates certain revisions and corrections that followed careful review of the original.

The estimates show the potential for the government to achieve large net savings from employment reductions, but such savings are not guaranteed. The estimates assume that employment cuts are generally achieved after careful consideration of work-load requirements. Arbitrary, across-the-board cuts that fail to consider the growing demands on some agencies risk putting agencies in the position of reducing employment now only to have to rehire later. In such cases, the government will have incurred all the costs of separating workers, which CBO's estimates show to be significant, but will realize only a small

**Box 3.**
**Analysis Supporting the Army Model**

Backing up the model developed for the Army is an analysis of the employees most likely to take one of the separation options--retirement, retirement with a bonus, or resignation with a bonus. The age and other characteristics of the workers who, according to this analysis, would select one of these options are used to estimate costs dependent on such characteristics as the amount of severance payments and pensions earned.

Depending on the type of separation being examined, the model bases its determination of who leaves either on experience or on an analysis that compares the returns of continuing to work with the returns available for leaving government service. For a given set of workers, the analysis compares all future financial and other advantages of leaving government with the advantages of staying. When separation compares favorably with continuing in service, the analysis assumes the employee would leave.

The analysis of the retirement options is based on studies of how different retirement incentives affect workers' decisions to separate.[1] The analysis compares the pension, leisure time, and private-sector earnings available for retiring now with those available after working one more year. Generally, the larger the increase in pension available by working one more year, the less likely it is that an employee would leave and the larger the incentive necessary to induce separation. Pensions in the analysis reflect age and years of service. The value employees place on leisure and on earnings potential in the private sector are approximated using individual characteristics and a random error term. Among the characteristics used as a proxy for differences in preferences for leisure are age and the region of the country. The analysis uses occupation and local unemployment rates to capture variation in potential private-sector earnings.

For analysis of a separation bonus, or incentive, the model uses two methods. In the case of Army civilian personnel who are eligible to retire, the model simulates the effect of the incentive on retirement rates by computing the actuarial-equivalent increase in the retirement annuity implied by the separation incentive. The implied increase in the retirement multipliers are then entered into the retirement model described in the previous paragraph. The increase in the probability of retirement is then calculated.

In the case of Army civilians who are not eligible for either regular or early retirement, the incentive is treated as an actuarial-equivalent increase in the potential non-Department of Defense earnings stream available to Army civilians who leave. Elasticity measures are used to calculate the increase in the separation rate for personnel who are offered the incentive but are not eligible for retirement. These elasticities indicate the percentage change in the Army civilian quit rate with respect to a percentage change in Army civilian pay relative to the pay offered by non-Army alternatives.[2] The empirical estimates of the elasticities are taken from an earlier study by Arnold, Black, and Warner.[3] They are based on econometric equations relating quit rates to measures of pay and to the demographic characteristics of Department of Defense civilians, using data on actual separations from the late 1970s and early 1980s.

1. See D. Alton Smith and S. Sylwester, *The Federal Retirement Decision: An Analysis of DoD Civilians* (Arlington, Va.: SRA Corporation, 1988).

2. The quit rate covers employees who voluntarily leave their job.

3. See James Arnold, Matthew Black, and John T. Warner, *Retention of DoD Civilians* (Arlington, Va.: SRA Corporation, 1985).

**Table 7.**
**Near-Term Cash Costs and Savings of Three Approaches to Cutting Jobs (In thousands of dollars per job abolished)**

| | First Year | Five-Year Cumulative |
|---|---|---|
| Total Savings in Pay and Benefits | 37.7 | 202.6 |
| Costs of Separating Workers | | |
| Layoff | 18.0 | 19.6 |
| Hiring freeze | 24.3 | 24.3 |
| Early retirement | 20.8 | 77.0 |
| Net Costs (-) or Savings | | |
| Layoff | 19.7 | 183.0 |
| Hiring freeze | 13.4 | 178.4 |
| Early retirement | 16.8 | 125.6 |

SOURCE: Congressional Budget Office.

portion of the savings in pay and benefits. In the interim, moreover, both the quality and quantity of federal services may suffer. The history of governmentwide efforts to cut staff has shown little success in permanently lowering federal employment. The estimates more appropriately apply to cases, such as that illustrated by DoD, in which reductions in employment can be sustained because of decreasing demands on the agency.

Although CBO has prepared separate estimates for each strategy for cutting employment, agencies cannot always use the strategies interchangeably. In some cases, a particular strategy will have obvious merit over others for achieving a desired employment reduction and minimizing disruption in the work force. In such cases, the ranking of the different strategies by cost would be different from that indicated here. In major reductions to date, moreover, agencies have used a variety of approaches in combination, and the specific costs an agency will incur when cutting its work force will depend on the extent to which it uses each strategy. CBO's analysis simply sets out the cost effects of each approach in an effort to help agency managers and government policymakers make more informed decisions.

# Near-Term Cash Costs and Savings of Different Approaches to Reducing Employment

CBO's cash estimates of the costs and savings of cutting federal jobs represent changes over five years in the government's cash disbursements. These estimates show that it generally costs less to separate workers by means of a hiring freeze or a layoff than by early retirement (see Table 7). This result takes place because the early-retirement option generates recurring cash outflows--the early-retirement pensions--rather than the largely one-time costs that occur under a layoff or hiring freeze.

## Costs of Laying Off Workers

The most direct method of cutting employment is to send out pink slips--to lay people off. The approach, referred to as a reduction in force, or RIF, offers the advantages of speed and directness.

**Box 4.**
**The Government's Reduction-in-Force Procedures**

Agencies that have to lay off workers must follow a complex set of procedures to determine who will actually leave. These procedures represent the government's effort to give favorable consideration in layoff decisions to employees with career appointments, military service, long federal employment, and good job performance. As such, employees in the positions an agency decides to abolish may not always be the employees who leave government. Under federal procedures, employees who rank high according to the above criteria may have the opportunity to replace others of lower rank, who in turn may replace still others. Employees who are ultimately separated from government receive 60 days' notice before their release. Employees of the Department of Defense may receive 120 days' notice if the layoff involves 50 or more employees.

The process begins with the designation of jobs to abolish. Employees in these jobs compete with others in similar positions to keep their federal jobs, though not necessarily the ones they currently hold. The government ranks employees according to seniority, veterans status, performance, and tenure in lists referred to as retention registers. An employee in a job abolished who ends up at the top of the register may take the job of an employee who is not as high on the list.

Such competitions involve employees who fall within what the agency designates as the competitive area. These areas are defined geographically, organizationally, or both. Moreover, employees compete only with others in a similar work and pay grade, referred to as competitive levels. Take, for example, the case of an agency faced with budget cuts that wants to abolish an office within its headquarters that includes one secretary/typist at the grade 4 level. That secretary may end up in competition with all grade 4 secretaries (competitive level) within headquarters (competitive area) to retain a job. At the end of this process, the agency should have one grade 4 secretary fewer. What distinguishes this round of competition is that although employees may displace others, they all generally end up in the same type of job (secretaries at the grade 4 level).

Employees displaced after the initial review may not lose their jobs. They may replace others through procedures referred to as bumping and retreating. At this point, employees may actually take the positions of others at lower grades or different jobs. They must be qualified for any position they take, and agencies generally use the same four criteria in deciding who may bump whom. Employees taking a job at a lower grade may keep the grade and pay of their former positions for two years. After that time, employees receive half of their annual adjustments until their pay falls to the level of their new job.

Even a casual reading of the procedures involved in a reduction in force makes clear the potential administrative burden and disruption they pose. The Office of Personnel Management estimates that at the Department of Defense, roughly two employees are adversely affected for every job abolished. OPM has recently proposed relaxing some of its procedures.

In government, layoffs are generally preceded by decisions to abolish certain jobs. The employees who hold those jobs, however, are not always the same as the employees who are laid off. Employees who hold abolished jobs may take the jobs of others under a costly and complex set of procedures that establish job preferences for veterans, senior staff, and high performers (see Box 4).

The government last used its RIF procedures to effect widespread layoffs in the early 1980s. At that time, President Reagan ordered a freeze on civilian employment (Memorandum from the President, January 20, 1981) and subsequently set ceilings on the employment levels of executive branch agencies. Most of the reductions in employment that followed resulted from attrition, but layoffs did occur. The General Accounting Office has estimated that from 1981 through 1983, agencies trimmed about 71,200 full-time-equivalent positions from their payrolls. During that period, the equivalent of 11,600 full-time workers were laid off--about 0.2 percent of the nondefense work force each year.[5]

Although layoffs are unavoidable at times, literature on the subject tends to emphasize the potential negative consequences of firing employees, since layoffs are the least voluntary of the alterna-

5. General Accounting Office, *Reduction in Force Can Sometimes Be More Costly to Agencies Than Attrition and Furlough*, GAO/PEMD-85-6 (July 24, 1985), p. 2.

tives and the most visibly linked to unemployment. Other concerns have to do with the potential damage to employees' morale and productivity.

In addition to their other consequences, layoffs are expensive to carry out; the costs are primarily for benefits, such as severance pay, to separated workers. In the first year, these costs total $18,000 per job abolished. Over five years, costs accumulate to $19,600 per job abolished, and net savings to the government total $183,000 (see Table 8). The estimates assume that the average laid-off worker is 39 years old and has an average 1994 salary of $28,300; that layoffs are spread proportionately among employees with zero to 10 years of service; and that the overall level of unemployment does not change as a result of the government's downsizing efforts. The cost of unemployment compensation was not included in the estimates of the cost of a layoff.

Among the largest costs is severance pay, which makes up about 25 percent of total costs. These payments are made to employees with 12 months of continuous service who lose jobs through no fault of their own. Employees receive a week's pay for each of the first 10 years of service and two weeks of pay for each year thereafter. The severance payment increases by 10 percent for each year an employee's age exceeds 40 years.

Layoffs in government may also involve considerable costs for relocating and retraining workers. Layoffs follow strict rules that allow workers in abolished jobs to displace others (see Box 4). Relocating and retraining costs arise as agencies attempt to make the best use of the skills of employees who remain. CBO's estimate of $3,500 for relocation assumes, based on experience at DoD, that relocation would be required for about 8.5 percent of the layoffs and that the average relocation costs would total $41,000 (for travel, moving expenses, temporary lodging, and other costs). The estimate of $1,900 for retraining assumes that for each job abolished 2.7 other employees are affected by RIF regulations that allow employees to displace one another and that 44 percent of those affected would have to receive some training. The average cost of the training is about $1,640.

**Table 8.**
**Near-Term Cash Costs and Savings of a Layoff (In thousands of dollars per job abolished)**

| | First Year | Five-Year Cumulative |
|---|---|---|
| Total Savings in Pay and Benefits | 37.7 | 202.6 |
| Costs of Separating Workers | | |
| Severance pay | 4.5 | 4.5 |
| Relocation | 3.5 | 3.5 |
| Retraining | 1.9 | 1.9 |
| Refund of retirement contributions | 1.7 | 1.7 |
| Grade retention | 4.8 | 6.5 |
| Administration | 0.1 | 0.1 |
| Refund of unused leave | 1.4 | 1.4 |
| Total | 18.0 | 19.6 |
| Net Costs (-) or Savings | 19.7 | 183.0 |

SOURCE: Congressional Budget Office.

The $1,700 for retirement refunds covers the withdrawal by separated workers of the contributions they must make under CSRS and FERS. CSRS employees contribute 7 percent of pay toward future benefits, and FERS employees contribute 0.8 percent of pay toward future benefits under the defined-benefit plan that is part of the system. (Contributions that FERS employees also make to Social Security are not refundable. Refunds of employee contributions to the Thrift Savings Plan are made from a nonbudgetary account and therefore do not affect federal budget outlays.)

The estimates include an amount for grade retention. In government, the employee in a position abolished under a layoff is not always the employee who leaves. As described earlier, regulations permit employees to displace others according to a complex set of procedures that consider seniority, tenure, veterans status, and performance on the job. Employees displacing others sometimes end up in lower-level jobs. These workers, however, keep their former grade and pay for two years, at which time the government limits pay raises until their salary equals that of the position that was filled. During the transition, the government pays more for the work it receives than it did previously, and the savings from a layoff in such cases are the pay and benefits of the lower-level worker who was displaced, not those of the job abolished. CBO's estimate of grade retention is calculated as the difference between the pay and benefits of the worker in the job abolished and those of the lower-level worker who actually leaves government.

The estimates assume, based primarily on a 1985 General Accounting Office review of RIFs in eight agencies conducted in 1982, that each layoff results in a downgrade and that most employees leave the downgraded jobs evenly over a period of 24 months.[6] (Employees in downgraded jobs have priority in promotions, and many quit their jobs or transfer.)

The administrative costs associated with a layoff represent the overtime that personnel put in to process a RIF. Based on DoD's experience, the estimates assume 6.25 hours of overtime at about $20 per hour. The estimates also include $1,400 per employee in refunds for vacation leave that was earned but not used. Average leave unused ranges from 40 hours to 200 hours depending on length of service.

## Costs of Cutting Staff by Placing a Freeze on Hiring

In lieu of laying off workers, an organization may simply choose not to hire replacements for some or all of the employees who leave for other jobs, retirement, or other reasons. During periods of retrenchment, a freeze on hiring offers an opportunity to cut staff without having to incur the costs or the direct perception of hardships caused by layoffs. A hiring freeze, however, can be slow. Under a layoff, an agency tells employees to leave; under a hiring freeze, it waits until the necessary employees leave voluntarily. In addition, many managers view a hiring freeze as a problem because it is hard to ensure that remaining workers have the right mix of skills.

Recently, the government has relied on not replacing workers who separate as the primary means of reducing employment. As previously mentioned, the government adopted a hiring freeze in the early 1980s in combination with lower employment ceilings as part of an effort to cut federal employment. The strategy permitted agencies to meet most of their employment reduction goals and to avoid all but a few layoffs. The Department of Defense has been under a partial freeze on hiring since January 1990.

**Turnover in the Federal Government.** The success of efforts to cut employment by not filling vacancies depends in part on the rate at which employees leave. In 1992, about 164,500 civilian employees left federal jobs or transferred to other federal agencies--a turnover rate of about 9 percent. (The turnover rate expresses separations as a percentage of average employment over a specified period; it covers workers in defense and nondefense agencies who have permanent appointments and full-time work schedules.) For workers who quit or retired, the turnover rate totaled about 4 percent. Of course, these averages mask considerable variation by occupation and work schedule (see Chapter 4).

6. General Accounting Office, *Reduction in Force*.

**Table 9.**
**Near-Term Cash Costs and Savings of a Hiring Freeze**
**(In thousands of dollars per job abolished)**

| | First Year | Five-Year Cumulative |
|---|---|---|
| Total Savings in Pay and Benefits | 37.7 | 202.6 |
| Costs of Separating Workers | | |
| Holding costs | 18.8 | 18.8 |
| Retraining and relocation | 5.4 | 5.4 |
| Total | 24.3 | 24.3 |
| Net Costs (-) or Savings | 13.4 | 178.4 |

SOURCE: Congressional Budget Office.

**Cash Costs and Savings.** CBO estimates that carrying out a freeze on hiring costs agencies about $24,300 per job abolished. As with layoffs, the costs of a freeze occur largely in the first year. Adjusted for these costs, using a freeze to vacate a position saves the government $13,400 in the first year and $178,400 over five years (see Table 9).

The largest cost associated with this approach covers the pay and benefits that employees earn while agencies wait for the required number of employees to separate. CBO estimates that these "holding costs" would total $18,800 per job abolished.[7] The level of holding costs incurred depends on the rate at which employees voluntarily separate. The higher the turnover rate, the faster an organization can reach its employment reduction goal and the lower the holding costs will be. Of course, agencies generally cannot afford to forgo replacing every worker who leaves. Some workers may have skills an organization cannot do without. The tighter the freeze--that is, the fewer the separated workers who are replaced--the lower the holding costs.

Consistent with recent DoD practice, the estimate of holding costs assumes that agencies fill two of every three vacancies that occur and that annual turnover averages 10 percent (the average of rates for 1991 and 1992). Accordingly, achieving the 3.5 percent employment cut assumed in CBO's estimates would take about 12 months. The pay and benefits disbursed to employees who eventually separate during this period represent holding costs to the government. The estimates assume that the salary of these workers averages $34,500.

Some analysts may argue that the 10 percent rate of turnover CBO used to calculate the holding costs is too high; they point out that recent rates have been lower than 10 percent. But rates have been lower in part because employees have postponed plans to leave government in the hopes of receiving a cash incentive to leave. The higher rate that CBO assumed more closely approximates normal turnover. Some analysts also argue that turnover rates should exclude transfers. CBO includes transfers because they can help agencies to meet their employment reduction goals. But if governmentwide cuts in employment reduce normal transfers, CBO's calculations may be too optimistic.

7. Waiting may also accompany other methods of reducing employment. Employees receive notice before a layoff, and offers of incentives to separate may involve extended periods during which employees may respond. However, CBO incorporated the cost of waiting only in its estimate of a hiring freeze because it believes waiting to be a basic part of that strategy. With the other strategies, waiting is considered to have more to do with how a plan is carried out. Readers may add to the estimates of other strategies whatever amount they deem appropriate to represent the holding costs of those strategies.

The estimates also include an amount to cover the retraining and relocation that may accompany any concerted effort to reduce employment by placing a freeze on hiring. CBO estimated these costs on the same basis as described in the discussion of layoffs. Should the planned employment reductions be highly concentrated in time or place, retraining and relocation costs could be many times those assumed here. In fact, recommendations by the National Performance Review suggest that future reductions would focus on specific types of occupations.

## Costs of Early Retirement

By encouraging retirements, an organization can free up positions it can use to meet employment reduction goals. In some cases, the retiree will vacate a position an organization wants to abolish; in other cases, the retiree frees up a position that is then taken by another employee, permitting a job to be eliminated elsewhere.

The government's practice has been to allow employees faced with layoffs to retire with pensions at an earlier age and with fewer years of service than they could otherwise. Employees who have at least 20 years of service and are at least age 50 may take early retirement under the federal program, as may employees of any age who have at least 25 years of service. Under normal circumstances, by contrast, an employee under CSRS can retire at age 55 at the earliest. The pensions of employees taking early retirement are reduced by 2 percent for each year they are under age 55, which is one reason that agencies may not always find many workers willing to take the option. Generally, the Office of Personnel Management has responsibility for granting agencies authority to use the early-retirement option. OPM does so when it finds that an agency faces a major cutback, reorganization, or transfer of functions that will put a significant percentage of employees out of work or at lower pay. DoD currently has wide-ranging authority to provide an "early-out" option.

In terms of cash costs, CBO's estimates show that early retirement is an expensive undertaking. The costs of conducting early outs are large because, in contrast to the one-time nature of the costs of a layoff or a hiring freeze, early retirement results in *recurring costs in the form of early-retirement* pensions. Cash costs for early retirement total $20,800 per job abolished in the first year (see Table 10). Over five years, costs come to $77,000 per job

**Table 10.**
**Near-Term Cash Costs and Savings of Early Retirement (In thousands of dollars per job abolished)**

| | First Year | Five-Year Cumulative |
|---|---|---|
| Total Savings in Pay and Benefits | 37.7 | 202.6 |
| Costs of Separating Workers | | |
| Early-retirement pension | 20.8 | 117.4 |
| Pension given up | 0 | 40.4 |
| Total | 20.8 | 77.0 |
| Net Costs (-) or Savings | 16.8 | 125.6 |

abolished--about four times the cost of a layoff and about three times the cost of a hiring freeze.[8] Net savings over five years accumulate to $125,600.

In the case of early retirement, however, cash impacts do not represent the best measure of cost to the government. As described in the next chapter, having the opportunity to retire early changes employees' decisions about retirement and thus the government's long-term liabilities for retirement. Taking into account such changes, CBO's estimates suggest that both the costs and the savings from early retirement compare favorably with those from the other options described here.

In preparing estimates, a key assumption is the relationship between the compensation of employees occupying the positions abolished, from which savings derive, and the compensation of those who take early retirement, on which estimates of costs are based. Consistent with the approach used to estimate the costs and savings of a layoff or a hiring freeze, the estimates for early retirement assume that pay and benefits in the jobs abolished are about the average for all DoD employees. Early retirees, however, have compensation and other characteristics keyed to employees eligible to retire early. CBO has therefore assumed that employees taking early retirement do not have the same characteristics as those in the jobs abolished. Early retirements free up positions that help, through reassignment, to vacate abolished jobs elsewhere.

Based on projections of the Army model described at the beginning of this chapter, CBO's estimates assume that early retirees have average final salaries in 1994 of about $41,200. Average age at the time of retirement is estimated to be 55 and average years of service to be 27. The estimates also assume that the number of workers who opt for early retirement and the number of jobs abolished are the same. In other words, the estimate is based on using early retirement as the sole method for reducing employment.

Under early retirement, the government commences pension payments earlier than it would have otherwise. The difference in the stream of pension payments the government makes under this method and the one it would have made in the absence of offering early retirement represents the largest cost of an early retirement. (Retirement costs in this analysis include the government's cost of health insurance for retirees. The estimates assume that without early retirement, employees would have retired when first eligible for regular retirement--on average, in about four years.)

## Offering Employees Cash Incentives to Separate

The more employees an organization can encourage to leave voluntarily, the fewer it ultimately has to lay off. When organizations face the need to cut back, they may offer cash incentives to employees in order to increase retirements and resignations and avoid layoffs.

The Defense Authorization Act of 1993 provides the Secretary of Defense with authority to offer such cash incentives to civilian employees. Over the next five years, employees who resign or retire may receive lump-sum payments equal to the lesser of the severance pay they would be eligible for or $25,000. (For retirees, the amount is in addition to a pension.) DoD may confine payments to employees within particular occupational groups or geographic areas. The Central Intelligence Agency and three Congressional agencies, which together with DoD employ about 40 percent of all federal civilian workers, have been granted similar authority to "buy out" employees, and the Congress may soon extend such authority to all government agencies.

Incentives can make the cost of separating a worker much higher than that of a layoff. Of course, costs are not the only consideration when cutting staff. Policymakers may feel that the added costs of incentives are justified as a means of avoiding the hardship and disruption caused by layoffs. They may also view incentives as a chance to advance other personnel management objectives. By encour-

8. Payments to retirees for unused vacation leave were not included in the analysis. That cost would represent the difference between payments for leave unused at the time of early retirement and payments for leave unused when retirement would otherwise have occurred. Such costs, therefore, would probably be small.

aging more workers to retire or take early retirement, for example, incentives can help reduce any surplus of senior staff. Incentives can also help avoid layoffs when desired reductions are concentrated by area, agency, or occupation--as in some of the reductions proposed by the NPR. And though the near-term costs of an incentive program are high, organizations eventually recoup the cost many times over in pay and benefits saved. Even so, the potentially high cost of incentives argues for making every effort to ensure that the goal of avoiding layoffs and achieving other personnel management objectives justifies the added cost.

The methods used to estimate the various costs of offering employees incentives to retire, take early retirement, or resign are the same as those described for the other approaches to separating workers. The estimates presented in Table 11 for each cost element are based in part on the age, service, and other characteristics of employees assumed to take incentives and separate voluntarily. CBO's figures

**Table 11.**
**Near-Term Costs and Savings of Offering Employees Cash Incentives to Separate (In thousands of dollars per layoff avoided)**

| | First Year | Five-Year Cumulative |
|---|---|---|
| Total Savings in Pay and Benefits | 37.7 | 202.6 |
| Costs of Separating Workers | | |
| *Early retirement* | | |
| Change in pension disbursements | 20.6 | 80.0 |
| Cost of incentive | 40.0 | 40.0 |
| Total | 60.6 | 120.0 |
| Retirement | | |
| Change in pension disbursements | 20.6 | 35.2[a] |
| Cost of incentive | 56.3 | 56.3 |
| Total | 76.8 | 91.5 |
| Resignation | | |
| Refund of unused leave | 2.8 | 2.8 |
| Refund of retirement contributions | 15.3 | 15.3 |
| Cost of incentive | 24.9 | 24.9 |
| Total | 43.0 | 43.0 |
| Net Costs (-) or Savings | | |
| Early retirement | -22.9 | 82.6 |
| Retirement | -39.2 | 111.2 |
| Resignation | -5.3 | 159.6 |

SOURCE: Congressional Budget Office.

a. This cost, as described in the discussion of early retirement, represents the difference between the pension earned and the ponsion that would have been earned. Because these employees would probably have retired eventually even in the absence of an incentive, the cost is low compared with that of early retirement.

**Table 12.**
**Percentage of Workers Receiving Cash Payments Under an Incentive Program to Avoid Layoffs Equal to 1 Percent of the Work Force**

| | Workers Who Would Have Been Laid Off | Workers Who Would Have Left Otherwise | All Workers |
|---|---|---|---|
| Early Retirement | 1.00 | 0.60 | 1.60 |
| Retirement | 1.00 | 1.25 | 2.25 |
| Resignation | 1.00 | 2.25 | 3.25 |

SOURCE: Congressional Budget Office.

reflect separations predicted by the Army model described at the beginning of this chapter.[9]

Regardless of the type of separation--retirement, early retirement, or resignation--the largest cost is for the cash incentives. In fact, the costs of those payments, along with other costs that arise under each type of separation, more than offset savings in the first year. DoD's authorization to offer incentives stipulates payments of $25,000 or severance pay, whichever is less. CBO has assumed that early and regular retirees would receive payments of $25,000 because in both cases severance pay would probably be higher. Based on projections by the Army model, workers who resign would receive $7,500--the equivalent of the severance pay they could receive.

The primary purpose of incentives is to help to avoid layoffs. What can make the incentives expensive is that organizations may end up paying many more employees to leave than they have layoffs to avoid. Organizations may offer incentives broadly to ensure equity. The Postal Service, for example, offered incentives to all employees who were eligible for early or regular retirement.[10] Many incentives therefore go to employees who are not in jobs that have been abolished.

Even in agencies that try to target incentive payments, some payments inevitably go to employees whose departures do not help vacate an abolished job or who were planning to leave voluntarily but delayed their plans to separate in order to receive a cash incentive. This phenomenon is reflected in the 37 percent drop in DoD's retirement rate in 1992, when separation incentives were being considered. Only 15 percent of eligible workers retired, compared with an average of 25 percent over the previous five years.

A key assumption in estimating the costs of a program that offers employees a cash payment to separate, therefore, is how many would receive such payments. The estimates of incentive payments assume that agencies pay bonuses to the 1 percent of the work force that CBO assumes would be laid off and to half of all employees who would have left in the absence of an incentive. (The 1 percent figure is about the average rate for DoD in the years in which layoffs are expected to occur, as described in Chapter 1.) For regular retirements and resignations, CBO based its estimates of the number who would have left otherwise on the appropriate average separation rate over the past six years. The estimate for early

9. For early retirement with a bonus, the model predicts that retirees would have an average age of 54, an average length of service of 27 years, and an average 1994 salary of $41,000. For retirement with a bonus, the average age would be 63 years, the average service 26 years, and the average salary $39,300. For a resignation, the average age would be 42 years, the average service 13 years, and the average salary $32,400. (The figures for a resignation would suggest a higher average severance pay than the $7,500 used in the analysis. But for a portion of the group that resigns, payments are capped at the $25,000 provided for in pending legislation, which results in a lower average payment than suggested by the age and service of the group.)

10. U.S. Postal Service, "New Management Structure Puts Focus on the Customer," *Postal News*, August 17, 1992.

retirement was based on the rate at which eligible employees have accepted offers to retire early in the past.

CBO's approach suggests that for every layoff avoided, an agency would have to pay 1.60 cash incentives under a program to encourage early retirements, 2.25 cash incentives under a program to encourage regular retirements, and 3.25 cash incentives under a program to encourage resignations (see Table 12).[11]

11. CBO's estimates of the cost of incentives depend heavily on assumptions about the rate of layoffs and other separations and about the portion of separated workers who become eligible for an incentive even though they would have left anyway. To the extent that the experience of individual agencies varies from that assumed in this analysis, their costs would also vary. Some analysts would argue that the assumption that only half of those who would otherwise leave get a cash payment to separate is a conservative one. The Department of Defense assumes that all those who would otherwise leave would receive such payments.

Chapter Three

# Long-Term Costs and Savings of Different Approaches to Reducing Employment

When separating an employee and abolishing a job, a large portion of the resulting costs and savings occurs far beyond the five-year time frame of the estimates presented in Chapter 2. In the case of early retirement, for example, the government exchanges the cost of a lower early-retirement pension for the cost of the pension that it would otherwise have paid. But a substantial portion of both the early-retirement pension and the regular pension that is forgone is paid many years beyond the five years covered by the Congressional Budget Office's cost estimates. Moreover, the two retirement streams occur over different time periods and therefore consist of dollars of different values.

A standard approach to comparing the costs and savings of a stream of future payments is to examine their present-value equivalents--that is, the worth of the entire stream of payments expressed in current dollars.[1] Based on this approach, CBO's analysis suggests a very different ranking of the cost-effectiveness of various strategies for cutting staff than was suggested by the five-year cash estimates. Over the long term, offering early retirement joins laying off workers and imposing a hiring freeze as being a highly cost-effective strategy. Indeed, CBO's estimates suggest that early retirement may cost less than the other methods.

More important, costs appear to be only a marginal consideration when compared with the very large long-term savings in pay and benefits the government achieves if it separates an employee, abolishes a job, and thus reduces government employment for any substantial length of time. Gross savings over 30 years from abolishing an average position in government, measured on a present-value basis, could accumulate to around $980,000--more than 10 times the highest estimated cost associated with separating an employee from such a position using even the most expensive separation incentives. In light of these substantial savings, the choice of a method of separating employees should probably reflect the management considerations described in Chapters 4 and 5 as well as the costs of carrying out the reduction.

## Calculating the Present-Value Effects of Cutting Employment

Consistent with the approach taken to describe the cash costs of cutting jobs, CBO's long-term estimates consider, for each approach, the savings in pay and benefits from abolishing a job, the costs of separating employees from jobs, and the net costs or savings to the government. These estimates are given on a present-value basis in 1994 dollars.

1. The present value of a stream of future payments is the lowest amount that would be needed at present so that, with interest (the discount rate), all future payments could be made.

The estimates of savings cover the reductions in pay and benefits the government achieves over 30 years by abolishing a job. As in Chapter 2, the salary is estimated at the average of $34,500 in 1994 dollars. The savings also include an amount to cover the government's cost of retirement (that is, the cost not covered by contributions from employees) based on "normal costs" of retirement developed by the Office of Personnel Management.[2] The implicit assumption here, as in the previous chapter, is that the government would abolish a job and cut staff and then keep the lower staff level for 30 years. (The present-value estimates cover 30 years to facilitate the calculations, but that horizon covers nearly all of the value that would occur under a permanent cut in employment.) Such an assumption is fully tenable if cuts follow from declines in work load, as they have at the Department of Defense. If the government cuts staff and then rehires, however, the CBO estimates will overstate savings. Finally, the estimates and other analysis in this chapter apply to gradual, modest decreases in employment. Large, rapid cuts would entail different considerations.

The estimates of costs cover the various expenses the government incurs for removing the required number of employees from their jobs. These expenses include severance pay, holding costs, and other expenses described in Chapter 2. They also include long-term changes in federal retirement liabilities, which reflect basic assumptions about who would be affected by the various strategies and about the type of benefits those employees would have earned and the career they would have had if they had not left. These assumptions are part of the model developed for the Army and described at the beginning of Chapter 2.

To calculate the present value of costs and savings, CBO assumed inflation of 4.5 percent and an interest rate of 7.0 percent. These amounts are consistent with recommendations of the Board of Actuaries of the Civil Service Retirement and Disability Fund.

2. The estimates of normal costs consider the full cost to the government of employee retirement expressed as a percentage of salary. For the Civil Service Retirement System, CBO used an estimate of 21 percent of salary. For the Federal Employees' Retirement System, CBO used an estimate of 22 percent of salary to cover the defined-benefit and the thrift savings portions of the program along with Social Security. Both estimates exclude employee contributions.

# Long-Term Effects of Various Strategies for Cutting Jobs

The analysis of long-term effects incorporates many of the same assumptions used in calculating the changes in five-year cash disbursements described in the previous chapter. The long-term estimates assume that the same jobs are abolished under each strategy, so the gross savings available under each approach are identical (see Table 13). Net savings to the government then depend on the costs associated with each strategy for removing employees from jobs. These costs are described below. Many of the costs are one-time, short-term costs and are therefore the same as those used for the near-term cash estimates.

## Long-Term Effects of a Layoff

The long-term costs of a reduction in force, measured in present-value terms, total $28,700 per job abolished. Like the cash estimates, this estimate covers severance pay ($4,500), retraining ($1,900), and other costs. The annuity cost, which totals $10,800 per job abolished, covers the cost of deferred pensions for employees who would elect to take them. Under both the Civil Service Retirement System and the Federal Employees' Retirement System, employees who leave and have at least five years of service may elect to take a pension later in life.[3] These costs occur beyond the five years covered by cash estimates. They are treated here as a cost of separating employees that is deducted from the retirement and other savings the government achieves by abolishing a job.

3. Under the Civil Service Retirement System and the Federal Employees' Retirement System, employees with at least five years of service on separation may receive unreduced, deferred pensions at age 62. Employees under FERS may also take a deferred pension at age 55 if they leave government with 30 years of service, or at age 60 with 20 years of service.

In calculating the cost of federal pensions, CBO assumed that all FERS employees with five or more years of service who were separating would leave their contributions with the government and take a deferred annuity. This assumption reflects the fact that employees who chose to do otherwise would irrevocably forfeit any claim to future benefits for the time they served. Based on historical data, CBO assumed that about 25 percent of CSRS employees would opt for a deferred annuity. (In contrast to employees under FERS, employees under CSRS who are reemployed may repay the system for contributions withdrawn and thereby restore credit toward retirement for the time they worked.) Of the estimated average deferred annuity of $10,800, about 90 percent covers the government's cost of annuities under FERS and the remainder covers CSRS.

## Long-Term Effects of a Freeze on Hiring

Adopting a hiring freeze to separate employees would cost, over the long run, an estimated $28,100

**Table 13.**
**Long-Term Costs and Savings of Strategies for Cutting Employment (In thousands of 1994 dollars per job abolished)**

| | | | | With Incentive | | |
|---|---|---|---|---|---|---|
| | Layoff | Hiring Freeze | Early Retirement | Early Retirement | Retirement | Resignation |
| Total Savings in Pay and Benefits | 979.9 | 979.9 | 979.9 | 979.9 | 979.9 | 979.9 |
| Costs of Separating Workers | | | | | | |
| Holding cost | n.a. | 22.7 | n.a. | n.a. | n.a. | n.a. |
| Severance pay | 4.5 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Relocation | 3.5 | 3.5 | n.a. | n.a. | n.a. | n.a. |
| Retraining | 1.9 | 1.9 | n.a. | n.a. | n.a. | n.a. |
| Grade retention | 6.4 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Administration | 0.1 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Leave refunded | 1.4 | n.a. | n.a. | n.a. | n.a. | 2.8 |
| Annuity cost | | | | | | |
| Annuity | 10.8 | n.a. | 309.5 | 309.5 | 210.6 | 15.9 |
| Annuity given up | n.a. | n.a. | 317.3 | 319.8 | 184.9 | n.a. |
| Subtotal | 10.8 | n.a. | -7.8[a] | -10.3[a] | 25.7 | 15.9 |
| Incentive payment | n.a. | n.a. | n.a. | 40.0 | 56.3 | 24.9 |
| Total | 28.7 | 28.1 | -7.8[a] | 29.7 | 81.9 | 43.6 |
| Net Costs (-) or Savings | 951.2 | 951.8 | 987.7 | 950.2 | 897.9 | 936.2 |

SOURCE: Congressional Budget Office.

NOTES: Costs and savings are given on a present-value basis.

n.a. = not applicable.

a. Savings.

per job abolished. As with the estimates of cash costs, the largest part of the long-term estimate covers holding costs--that is, the pay and benefit costs the government incurs because it keeps employees on board until they leave voluntarily. Under a freeze, however, holding costs include the accrual cost of regular retirement rather than only the portion of federal retirement liabilities that take the form of current cash disbursements.

## Long-Term Effects of Early Retirement

Over the long term, early retirement would save $7,800 per job abolished without an incentive payment and cost $29,700 with one. What distinguishes these long-term estimates for early retirement from their cash counterparts is the calculation of annuity costs. The long-term effects are calculated as the difference between the present value of the government's cost for the stream of payments that occurs under early retirement and the stream of payments that would have occurred had the employee not retired early. These estimates are sensitive to assumptions about inflation, interest rates, and the characteristics of the workers affected.[4]

Another key assumption is the amount of time between early retirement and the point at which regular retirement would have occurred. As mentioned earlier, CBO assumes that regular retirement would have occurred at the point at which an employee first met the age and service requirements for regular retirement. In the estimates, this period ranges from three to eight years and averages four years beyond the early-retirement date.

Most of the $7,800 in savings per job abolished reflects the 2 percent reduction in pensions that early retirees take for each year they are under age 55, which may explain why the government has trouble finding workers willing to take early retirement.[5] Under a program that offers an incentive for employees to retire early, the savings in annuity costs come to $10,300 per job abolished. Based on these estimates, reducing the work force by offering early retirement would save money but would not produce many volunteers. Adding incentives could encourage more employees to retire early and would still result in relatively low costs. But, as described in the next chapter, the availability of incentive programs can discourage normal separations.

## Long-Term Effects of Retiring Employees with an Incentive

Should the government choose to separate employees by offering an incentive to encourage regular retirements, the long-term cost would total about $81,900 per job abolished, including the cost of the incentives. (The cost of the incentive is calculated in the same manner as described in the discussion of near-term cash costs in Chapter 2.)

The annuity cost--that is, the difference between the cost to the government of paying a pension now and paying it later--comes to $25,700 per job abolished. The estimate assumes that without an incentive, employees would have worked two more years on average.

## Long-Term Costs of Using Incentives to Encourage Resignations

The long-term costs of separating employees by using incentives to encourage resignations would total $43,600 per job abolished, including the cost of

4. For example, with the assumption of 4.5 percent inflation and 7.0 percent interest, CBO estimates that early retirement reduces the government's retirement cost by $7,836. If, instead, CBO assumed 6.5 percent interest, the comparable figure would be $11,880.

5. The employee presumably makes a comparison similar to the calculation of the government's cost, although it would be based on different interest and inflation assumptions and on more individualized estimates of mortality. A decision to retire early would be based on the individual's net expected annuity, prospects for alternative employment, and preference for leisure.

the incentive. As with layoffs, the annuity cost, which averages $15,900 per job abolished, covers the government's cost of deferred pensions. CBO assumes that about 40 percent of employees would opt for deferred annuities. Of the total annuity cost, about 86 percent covers the government's cost of employee pensions under CSRS and the remainder covers FERS. (These percentages reflect current participation rates.)

## Costs, Savings, and Decisions to Cut Employment

Decisions to abolish jobs should ultimately reflect the requirements of the work load and the opportunities for long-term streamlining of government. Once the decision is made to cut back, cost will be only one of many considerations in choosing among the various strategies for the employment reduction that follows from abolishing jobs. CBO's estimates suggest that the ranking of the costs of the various strategies depends on how and over what period one chooses to measure them.

Focusing on near-term effects can obscure the long-term costs and savings available to government under the various strategies for reducing staff. Moreover, the long-term estimates reveal that the costs of the various strategies seem small compared with the savings available from permanent reductions in staff. Net savings, which range from about $898,000 to $988,000 per job abolished, are many times the cost of the various strategies. Accordingly, the analysis suggests that in choosing how to cut employment, the government should give as much consideration to the effects the various strategies have on morale, the structure of the work force, and other factors as to the cost comparisons. These issues are described in the next chapters.

Chapter Four

# Managing Employment Reductions Using the Traditional Methods: Experience at the Department of Defense

Agencies facing reductions in civilian employment are concerned not only with cost but also with the effects on the work force of relying on the traditional methods of making those reductions--layoffs, hiring freezes, and early retirement. The chief concerns raised about these methods are whether agencies can

- ensure that the remaining work force has the necessary skills;
- prevent growth in the average salary of a worker resulting from increases in the seniority of the work force;
- maintain the diversity of the work force (in terms of sex and race); and
- preserve morale and productivity.

The Congressional Budget Office's analysis of these issues in this chapter suggests that with careful management, government agencies can use a hiring freeze to accommodate personnel drawdowns of several percent a year with a minimum number of layoffs and without serious negative effects on the work force. If drawdowns are large or highly concentrated in time or by occupation or region--as could be the case given current budgetary constraints and some of the reductions proposed by the National Performance Review--agencies will probably find it harder to reduce employment without resorting to more layoffs. These conclusions stem largely from analysis of experience at the Department of Defense, which has recently faced the need to make concentrated as well as more dispersed reductions in civilian employment. In most cases, DoD's experience would apply to civilian agencies because the profile of the average DoD worker is similar to that of the average worker at other agencies.

To carry out the reductions in employment required as part of the defense drawdown, which began in 1990, the Congress gave DoD the authority to offer separation incentives to civilians between 1993 and 1997. The Administration has proposed that the Congress make separation incentives available to all agencies to accommodate the reductions in employment recommended in the National Performance Review. Chapter 5 discusses the pros and cons of separation incentives based on the recent experience of the U.S. Postal Service and the Department of Defense.

## Layoffs

Layoffs occur when normal turnover is insufficient to achieve required reductions in the work force caused by changes in the work load, the closing of facilities, or the reorganization of agencies' functions. As described in Chapter 1, agencies may resort to layoffs when reductions are concentrated in particular organizations, skills, or geographic locations or within short time periods, but most reductions in employment are more widespread. Partly for that reason, few workers are laid off; layoffs at DoD, for example, have averaged less than 1 percent of the work force in recent years

Even when reductions are concentrated and layoffs are therefore more likely, usually only a fraction of the workers who receive reduction-in-force notices are actually laid off. In fact, based on a CBO model using DoD's experience, only about one in four employment reductions is likely to result in a layoff (see Appendix B). Layoffs are minimal because turnover increases as the mere prospect of being laid off induces workers eligible for early or regular retirement to take that option and other workers to find new jobs.

Agencies are concerned about using layoffs, primarily because of their negative effects on the morale of the remaining work force and also because of the equity issue--the possibility that female and minority workers are more likely to be laid off because they have less seniority. CBO's analysis suggests that women and minorities may not face a greater risk of being laid off but that some negative effects on employee morale may be unavoidable. To avoid hurting morale, agencies have kept layoffs to a minimum by relying primarily on early retirement and hiring freezes to reduce employment. In 1993, DoD also used separation incentives to reduce layoffs.

## Effects on Morale and Productivity

The most often cited concern associated with layoffs is the potential damage to workers' morale and associated reductions in productivity. Agencies may be able to mitigate these effects by paying careful attention to the needs of both the employees affected and those remaining in the work force.

Few analysts would dispute the claim that layoffs harm morale, but little detailed analysis has been done on how dampened morale affects the productivity of the remaining workers. Although some studies suggest that the employees who remain work harder, concerned that they may be next to leave, evidence from the field suggests that layoffs reduce productivity.[1]

A study of retrenchments in New York State in the late 1970s, for example, found that layoffs reduced productivity in two ways. First, the threat of layoffs prompted more workers to leave--particularly talented workers, who could find jobs elsewhere. Second, anxiety increased among the remaining workers, who felt a loss of faith in their organization. Greater turnover not only created a less experienced, less productive work force but also temporarily reduced the productivity of experienced workers, who had to spend more time training new workers. The study estimated that these effects could lower productivity.[2]

Productivity may fall after employment reductions not because of the layoffs themselves but because organizations do not usually reduce the number of workers in proportion to decreases in work load. Some economists have found, for example, that firms lay off fewer workers than changes in work load would warrant, partly in order to keep experienced personnel who may be needed at some future date. Referred to as "labor hoarding," this practice also reflects other concerns such as contractual commitments to workers and the need to perform work that is required periodically but is frequently deferred.[3]

Decreases in productivity may also reflect the tendency of organizations to be slow to reduce administrative and management personnel in propor-

1. See Leonard Greenhalgh, Anne T. Lawrence, and Robert I. Sutton, "Determinants of Work Force Reduction Strategies in Declining Organizations," *The Academy of Management Review*, vol. 13, no. 2 (April 1988), pp. 241-242.

2. Leonard Greenhalgh and Robert B. McKersie, "Cost-Effectiveness of Alternative Strategies for Cut-Back Management," *Public Administration Review* (November/December 1980), pp. 577-578. This is one of the few studies that attempt to measure the effects of layoffs on productivity, and even this study is based on a small sample.

3. Jon A. Fay and James L. Medoff, "Labor and Output over the Business Cycle: Some Direct Evidence," *The American Economic Review* (September 1985), pp. 638-655. Based on responses from 168 firms, Fay and Medoff estimated that firms retained 6 percent more blue-collar labor than was strictly necessary to carry out planned work. About half of this labor was used to perform useful, periodically required tasks such as equipment maintenance and overhaul, painting, cleaning, reworking, or training; the remainder was hoarded. The concept of labor hoarding was proposed by Walter Oi when he suggested that labor should not be considered completely variable because firms tended to retain their work force (particularly highly skilled labor) during downturns in order to avoid training new workers in the future. See Walter Y. Oi, "Labor as a Quasi-Fixed Factor," *Journal of Political Economy*, vol. 70, no. 6 (December 1962), pp. 538-555.

tion to reductions in work load and resources.[4] Most observers agree, however, that an organization can limit the damage done by layoffs by explaining changes and informing workers well in advance of separations, involving the remaining work force in the revamping of the organization, and providing placement assistance to employees who have been let go (see Box 5).[5] In any case, to avoid hurting morale, agencies are likely to offer either early retirement or separation incentives (if they have the authority to do so) or to adopt hiring freezes to minimize the number of layoffs.

## Effects on the Composition of the Work Force

Layoffs raise issues of ensuring equity (for workers who face them) and preserving the diversity of the work force (for those who remain). Generally, however, relatively few workers are laid off, and layoffs therefore will probably not change the overall composition of the work force. Even when they occur, agencies continue to hire new personnel, and those new employees include significant numbers of women and minorities.[6]

Concerns about equity stem from the order of retention established by law (5 U.S.C. 3502(a)), which requires that agencies facing layoffs give preference to workers based on seniority, veteran's status, performance ratings, and tenure (see Box 4 in Chapter 2). Since women and minorities tend to have lower seniority and are less likely to be veterans, one might expect that layoffs would affect them disproportionately. Indeed, the General Accounting Office found, based on a sample of RIFs in eight agencies in 1982, that women and minorities were

**Box 5.**
**Transition Programs for Displaced Workers**

The federal government makes a variety of efforts to ease the impact of layoffs on workers. In addition to severance pay, the government offers training and placement assistance. After separation, laid-off workers may receive training and other assistance under the Department of Labor's Economic Dislocation and Worker Adjustment Assistance program.

The Department of Defense also has adopted transition programs for its employees. Before separation, and for up to a year thereafter, DoD civilian employees may receive priority consideration for placement in other DoD jobs under the department's Priority Placement Program. Over the past four years, placement rates have averaged 40 percent for DoD workers facing layoffs. Under the new Defense Outplacement Referral System and the Transition Bulletin Board, DoD also attempts to match employees with jobs in other agencies and private-sector firms. Although many referrals have been made, no statistics are available on private-sector placements. These programs operate via nationwide data bases.[1] In addition, the Bush Administration increased assistance for DoD civilian employees facing separation; DoD, for example, may pay the relocation costs of employees who find other federal jobs.

The military services also offer to transfer civilian workers who are facing layoffs to other jobs. For example, the Army has placed one of every three such workers. Although all agencies may offer transfers and give preference in hiring to workers facing layoffs, civilian agencies may find it more difficult than DoD because many of DoD's military installations are large and near other facilities that may provide employment opportunities.

1. Defense Conversion Commission, "Civilian Personnel: Employment Levels, Separations, Transition Programs and Downsizing Strategy," Annex K of *Adjusting to the Drawdown* (February 1993), pp. 11-13.

4. William McKinley cites evidence showing that decreases in work load in both public and private organizations do not necessarily lead to comparable decreases in bureaucratic staff. See "Decreasing Organizational Size: To Untangle or Not to Untangle?" *The Academy of Management Review*, vol. 17, no. 1 (January 1992), pp. 112-123.

5. For a review of the literature on how cutting employment affects the remaining work force, see U.S. Army Research Institute for Behavioral and Social Sciences, *Organizational Downsizing: Individual and Organizational Implications and Recommendations for Action* (June 1991), pp. 58ff. For a survey of human resource managers, see Right Associates, *Lessons Learned: Dispelling the Myths of Downsizing* (Philadelphia: Right Associates, 1992), which suggests that the negative effects of downsizing can be minimized through careful management.

6. Minorities include blacks, Hispanics, Native Americans/Alaskans, and Asians. All others are considered nonminorities.

laid off at a rate greater than their representation as a whole in the agencies studied, although most of the differences were small.[7]

The composition of the recent layoffs at DoD, however, was determined more by where reductions in the department's work requirements occurred than by the preferences included in the regulations governing layoffs. Of the workers laid off at DoD between 1990 and 1992, about 60 percent were blue-collar workers even though they accounted for only slightly less than 30 percent of DoD's civilian work force. Blue-collar workers were disproportionately affected by layoffs because decreases in work load were greater in jobs in which they predominate--depot maintenance, supply activities, and the upkeep of base facilities. In fact, a recent report found that blue-collar workers accounted for a disproportionate share of layoffs governmentwide.[8]

Furthermore, because most (90 percent) of the blue-collar jobs were held by men, they were more likely to be laid off than women. In fact, 73 percent of the 7,900 DoD workers laid off between 1990 and 1992 were men, although they account for less than 60 percent of DoD's work force (see Figure 2).[9]

Women fared differently within the blue- and white-collar segments of the work force. Women accounted for 13 percent of blue-collar layoffs and 9 percent of that work force. Women's share of these layoffs, however, was proportional to their share of the junior (less than 12 years of service) work force, which is the category most vulnerable to layoffs (see Figure 2). That share may also reflect the relatively small number of women who hold blue-collar jobs and their more recent entry into these jobs. Within the white-collar work force, women have traditionally held many jobs for longer periods of time, which helps to explain why women accounted for the same share of white-collar layoffs as their share of that work force (see Figure 2).

Similarly, layoffs at DoD did not disproportionately affect minorities in either blue- or white-collar occupations. Minorities accounted for 26 percent of DoD's blue-collar layoffs and 30 percent of the blue-collar work force. They accounted for the same proportion of layoffs as their share of DoD's white-collar work force (see Figure 3).

DoD's experience with white-collar layoffs may be of most relevance to other agencies whose work forces are predominantly white-collar.[10] Based on that experience, concerns about the equity of layoffs may prove to be unwarranted.

## Effects on Seniority and Average Salary

Since employees who are laid off are typically in junior, lower-graded positions, agencies are concerned that the average salary of a worker will rise because the remaining work force is older and at a higher average grade. Layoffs, however, are likely to be too few in number to have much effect. For example, even if DoD's 1995 layoffs tripled from the previous high point of 3,500 layoffs (as CBO has projected), they would still account for only 1.2 percent of DoD's work force of almost 1 million.[11]

Although the average grade of Defense Department workers who were laid off in 1990 and 1991 was a General Schedule 7 (GS-7)--a relatively low grade--all layoffs are targeted toward particular

7. See General Accounting Office, *Reduction in Force Can Sometimes Be More Costly to Agencies Than Attrition and Furlough*, GAO/PEMD-85-6 (July 24, 1985), pp. 5, 41, 44, 46, 47.

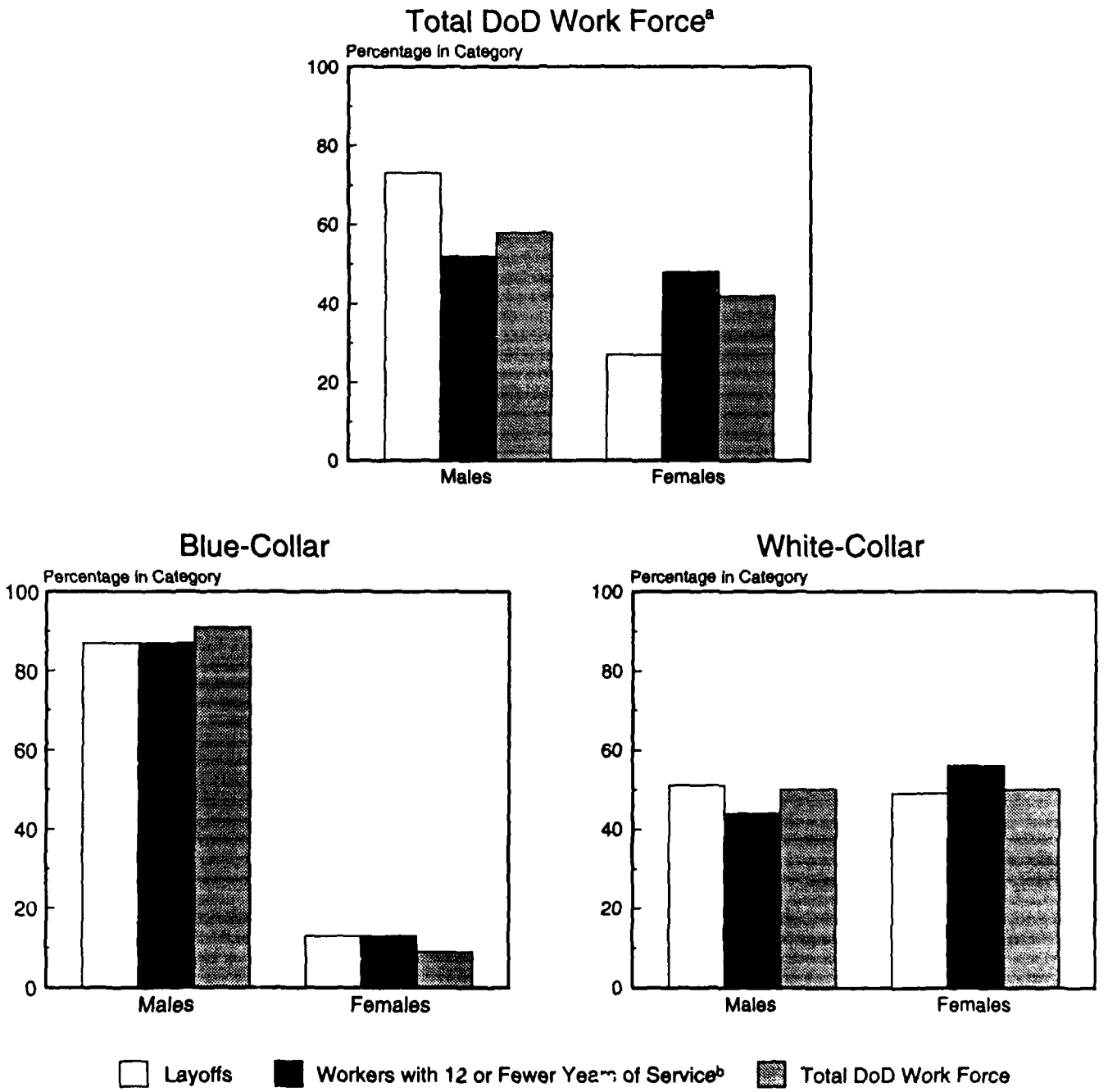
8. The report found that in 1989, 1990, and 1991, blue-collar employees accounted for 26 percent, 45 percent, and 71 percent of all layoffs, though they accounted for only 17 percent of the total federal work force. Most of the layoffs occurred at DoD. See U.S. Merit System Protection Board, *Federal Blue-Collar Employees: A Work Force in Transition*, A Report to the President and the Congress of the United States (December 1992), pp. 1, 14, and 37.

9. To represent the composition of the total DoD civilian work force and those workers most likely to face layoffs (that is, workers with 12 or fewer years of service), CBO used data on the sex, race, and occupational composition of the Army's civilian work force. The profile of the Army civilian work force mirrors that of the entire DoD civilian work force.

10. Except for DoD and the General Services Administration, where about one-quarter of the work force is blue-collar, the federal work force is overwhelmingly (85 percent or more) white-collar. See U.S. Merit System Protection Board, *Federal Blue-Collar Employees*, p. 14.

11. DoD laid off 443 workers in 1990, 3,473 in 1991, and 2,337 in 1992. Those totals do not include those foreign nationals who are not covered by OPM's personnel regulations and are employed overseas.

**Figure 2.**
**Composition of Layoffs and the Work Force at DoD, by Sex and Occupation, 1990-1992**

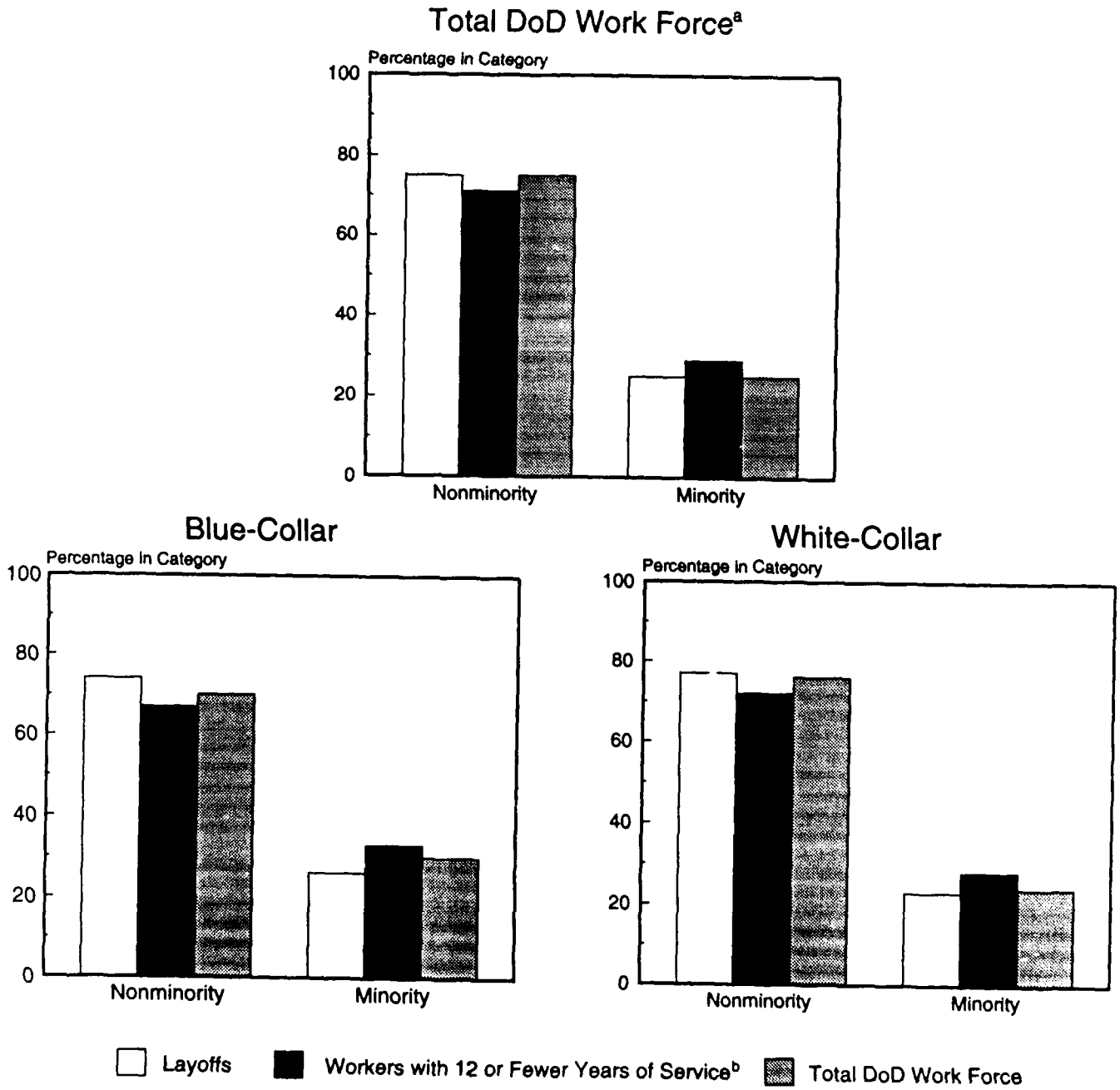



SOURCE: Congressional Budget Office using data provided by the Department of Defense.

a. At end of fiscal year 1992.

b. Workers who are likely to be laid off.

**Figure 3.**
**Composition of Layoffs and the Work Force at DoD, by Race and Occupation, 1990-1992**




SOURCE: Congressional Budget Office using data provided by the Department of Defense.

NOTE: Minorities include blacks, Hispanics, Native Americans/Alaskans, and Asians. All other racial groups are considered nonminorities.

a. At end of fiscal year 1992.

b. Workers who are likely to be laid off.

positions and thus can affect personnel in both high and low grades and with any length of service. Of the workers laid off at DoD in 1990 and 1991, for example, some 50 percent had 5 years or less of service, 20 percent had 6 to 10 years, and the remainder had 11 years or more. Taking this distribution of layoffs into account, together with the small share of the work force affected, the overall effect of layoffs on the seniority of the work force and on average salary is likely to be small.

## Maintaining the Right Mix of Skills

Since layoffs are designed to eliminate jobs that are no longer needed, mismatches in skills are not likely to arise. For example, most layoffs in the Air Force in 1991 were at maintenance depots, reflecting the fact that the aircraft fleet was smaller and therefore required fewer maintenance workers. As a result of RIF procedures, however, some workers may be placed in positions for which they have more experience than is required to carry out the job.

Under the complicated seniority rules governing RIF procedures, the person occupying an abolished position is seldom the one who is laid off (see Box 4 in Chapter 2). Instead, employees with greater seniority who are threatened by RIFs are reassigned to other positions. In some cases, then, the seniority level of the worker may be too high for the reassigned slot. Such disruption is usually temporary because employees eventually find positions more appropriate to their grade and skills. The General Accounting Office found that one to two years after a RIF action, almost three-quarters of the employees affected by downgrades had either obtained a job outside the government or transferred to another position within the agency.[12]

# Hiring Freezes

Adopting a hiring freeze--that is, replacing only a fraction of the employees who leave--is the most common tool for reducing employment. To ensure that essential work is not affected, agency managers seldom use a complete freeze on hiring. Moreover, since agencies have rarely been required to reduce employment by about 10 percent in a year (the normal turnover rate), partial rather than complete hiring freezes have been all that was necessary. Under a partial freeze, agencies generally permit organizations to replace workers in particular occupations or functions, set an overall limit on the fraction of employees who can be replaced during the year, or do both. Since the military drawdown began in 1990, DoD has used a combination of these methods to reduce employment by 3 percent to 4 percent a year.

Some policymakers have been concerned that continuing partial hiring freezes over several years will create shortages in particular occupations and increase the average salary of a worker. CBO's analysis of DoD's recent experience, however, suggests that with careful management, mismatches between the work requirements and the skills of the work force can be minimized by adopting different replacement rates for different occupational categories. Based on an analysis of DoD's work force, CBO also found that changes in the occupational mix and average grade have been more significant than hiring limitations in increasing average salary. Finally, DoD has used a hiring freeze to create additional employment opportunities for workers facing layoffs.

## DoD's Experience with a Hiring Freeze

Between January 1990 and October 1992, the Defense Department reduced civilian employment by 111,000, or 3 percent to 4 percent each year, primarily by relying on a partial hiring freeze. Although this policy has enabled DoD to reduce employment steadily, DoD has had some difficulty in meeting planned employment levels (see Table 14). With civilian employment scheduled to decrease by 42,000 in 1993 and 45,000 in 1994--decreases of 4 percent and 5 percent, respectively--DoD will probably continue the freeze.[13]

12. General Accounting Office, *Reduction in Force*, pp. 38-39.

13. Office of the Secretary of Defense, "Operation and Maintenance Overview: FY 1994 Budget Estimates" (April 1993), p. 160.

**Table 14.**
**DoD's Experience with a Partial Hiring Freeze, 1990-1992**

| | 1990 | 1991 | 1992 | Average |
|---|---|---|---|---|
| Employment (Thousands of workers) | | | | |
| Planned | 1,100.7 | 1,051.7 | 1,001.0 | n.a. |
| Actual | 1,072.8 | 1,044.5 | 1,006.1 | n.a. |
| Change from Previous Year | | | | |
| Thousands of workers | -44.0 | -28.3 | -38.4 | -36.9 |
| Percent | -3.9 | -2.6 | -3.7 | -3.4 |
| Difference Between Planned and Actual | | | | |
| Thousands of workers | -27.9 | -7.2 | 5.1 | 13.4 |
| Percent | -2.5 | -0.7 | 0.5 | 1.2 |

SOURCE: Congressional Budget Office using data provided by the Department of Defense.

NOTES: Planned employment reflects target levels for civilian employment at the end of the fiscal year. Unlike civilian agencies, DoD is not subject to employment ceilings.

n.a. = not applicable.

The department's original policy banned all replacements except for workers in certain categories (for example, medical, safety, and security). This policy was modified to exempt 22 personnel categories (ranging from child care workers in Europe to Desert Shield/Desert Storm personnel) from the freeze.[14] There were no limits on the total number who could be exempted in these categories. Under that policy, employment fell by about 4 percent, or 44,000, in 1990--some 28,000 more than planned (see Table 14).

In March 1991, DoD changed its policy. The number of exempt categories was reduced, and organizations could replace only two of every five nonexempt employees. Employment fell by 2.6 percent, or 28,000, that year--some 7,000 more than planned. In the first year under the revised policy, about three-quarters of workers hired by the services were in an exempt category. Since exemptions continued to have no limits, using exemptions may have been simpler for the services than limiting the replacement of other personnel.

In 1992, under the same policy guidelines, DoD reduced employment by almost 4 percent, or 38,000--5,000 fewer than planned. Hiring limits were stricter than in the previous year for two reasons: turnover fell by almost 20 percent because the economy slowed, and employees delayed retirement in hopes of receiving a separation bonus, which the Congress was considering in the spring and summer of 1992.

## Designing an Effective Freeze

Because DoD placed no limits on the number of exemptions from the freeze, it had difficulty in meeting planned employment levels. Other agencies could encounter the same difficulty with this type of freeze policy. To avoid such problems, agencies could adopt simple, clear overall limits on replacing employees who leave and permit organizations to exempt particular categories of workers or limit replacement as they saw fit within those limits.

14. The original guidance was contained in a January 11, 1990, memorandum from Secretary of Defense Dick Cheney to the Secretaries of the military departments.

Another problem in ensuring that freezes reduce employment in a consistent fashion is the difficulty in predicting turnover. For example, if turnover was 10 percent and an agency wanted to reduce its work force by 5 percent, it would adopt a 50 percent replacement policy. If turnover was only 8 percent, however, agencies would need to limit replacement to about 40 percent to reduce employment by 5 percent in a year. Agencies therefore might want to assume conservative turnover levels to reflect recent decreases in turnover.

Agencies could also design a partial hiring freeze to increase employment opportunities for workers facing layoffs. In fact, DoD's practice of granting hiring preference to workers facing layoffs and offering them internal transfers reflects this approach. Between 1990 and 1992, in fact, 2.5 percent of DoD's work force transferred jobs--a rate that is more than double the average of the previous five years. To use this approach, organizations would delay filling positions until applications from workers within the agency had been considered. Even if only some of the workers facing layoffs had the appropriate skills, fewer layoffs would occur. They would be most likely in cases in which employees were not willing to move or an individual's skills were highly specialized.

## Targeting a Freeze to Ensure That Reductions Match the Work Load

Because managers cannot foresee and therefore cannot plan for voluntary separations, a freeze has the potential to create significant mismatches between the skills of workers and the requirements of the work load. Under partial hiring freezes, however, managers can replace some workers. Permitting managers to adopt different replacement rates for different occupations--within overall limits--may help organizations to minimize mismatches in skills.

**Adopting Different Replacement Rates for Different Occupations.** During the 1990-1991 freeze, DoD adopted different replacement rates for different occupations. For example, the replacement rate in 1991 for permanent blue-collar workers was half that for white-collar workers--about 50 percent compared with almost 100 percent (see Table 15). Within the white-collar group, DoD replaced fewer clerical workers than professionals (about 75 percent compared with almost 100 percent) and fewer administrative workers (54 percent) than technical workers (77 percent).

**Table 15.**
**Replacement Rates for DoD Civilian Workers, by Occupation and Employment Status, 1990 and 1991**

| | Permanent | | Temporary | |
|---|---|---|---|---|
| | 1990 | 1991 | 1990 | 1991 |
| Blue-Collar | 0.57 | 0.45 | 0.84 | 1.24 |
| White-Collar | 0.78 | 0.97 | 0.79 | 1.13 |
| Professional | 0.86 | 0.98 | 1.05 | 1.00 |
| Administrative | 0.60 | 0.54 | 0.69 | 1.16 |
| Technical | 0.61 | 0.77 | 0.87 | 1.17 |
| Clerical | 0.66 | 0.76 | 0.88 | 1.15 |
| Other | 1.04 | 1.66 | 0.58 | 1.18 |
| All Occupations | 0.66 | 0.69 | 0.85 | 1.16 |

SOURCE: Congressional Budget Office using data provided by the Department of Defense.

NOTE: Replacement rate is computed by dividing the number of employees who were hired by the number of employees who left.

**Table 16.**
**Turnover Rates for DoD Civilian Workers, by Occupation and Employment Status, 1987-1991 (In percent)**

| Occupation | Turnover Rates | | | Temporary Workers' Share of Turnover |
|---|---|---|---|---|
| | Permanent | Temporary | Total | |
| Blue-Collar | 8 | 39 | 11 | 32 |
| White-Collar | 10 | 41 | 12 | 26 |
| Professional | 8 | 36 | 10 | 23 |
| Administrative | 9 | 27 | 9 | 7 |
| Technical | 9 | 40 | 11 | 25 |
| Clerical | 13 | 41 | 17 | 33 |
| Other | 14 | 48 | 23 | 53 |
| All Occupations | 9 | 40 | 12 | 28 |

SOURCE: Congressional Budget Office using data provided by the Department of Defense.

NOTE: Turnover rates and work-force shares are averages for the 1987-1991 period.

These different rates reflect, in part, differences in work load. For example, research and development activities (performed by engineers and scientists) have decreased relatively little during the defense drawdown; in contrast, equipment maintenance and supply as well as facilities maintenance at bases--all predominantly blue-collar occupations--are steadily decreasing.[15] Constraints on resources also influence decisions to replace personnel. Although selective replacement cannot eliminate specific problems at individual installations, it can minimize mismatches in skills.

A freeze can also be tailored to bring about specific decreases in particular occupations for policy reasons. For example, the National Performance Review calls for agencies to increase the number of employees for whom a supervisor is responsible by gradually reducing the number of supervisory and "systems control" staff.[16] Part of this NPR proposal stems from increases in the number of managers and administrators in recent years; at DoD, for example, this occupational group grew by 33 percent from 1982 to 1992 and now accounts for 19 percent of the work force. This goal could be accomplished by a freeze policy that limited the replacement of these personnel over several years.

Managers setting replacement policies to meet this type of goal need to take into account turnover rates for particular occupations. At DoD, for example, turnover ranges from a low of [illegible] percent for management and administrative personnel to almost 17 percent for clerical workers (see Table 16). The work force in civilian agencies has similar occupational differences in turnover rates. By adopting specific replacement rates that reflect differences in turnover, agencies can reduce their work force to match changes in work load and meet various policy goals.

To pinpoint areas in which employment is expected to shrink, agencies could also run "mock RIFs," in which they identify the positions that would be abolished under a reduction in force. Managers could then adopt stricter replacement limits in those occupations slated for potential layoffs.

15. For actual and projected decreases in maintenance and support personnel, see Table II-4 in DoD's Defense Manpower Requirements Reports for fiscal years 1991 through 1994.

16. Report of the National Performance Review, *From Red Tape to Results: Creating a Government That Works Better and Costs Less* (September 7, 1993), p. 71.

**Adopting Different Replacement Rates for Temporary and Permanent Personnel.** A freeze can also reflect whether changes in the work load are temporary or permanent. For example, DoD expanded its temporary work force to respond to the surge in employment during the Persian Gulf War in 1991 but restricted the hiring of permanent employees. In 1991, the number of temporaries in the blue-collar work force hired during the year grew by 26 percent, but only 45 percent of permanent blue-collar workers were replaced. Different replacement rates were also adopted for various occupational categories of white-collar workers (see Table 15). This policy enabled DoD to repair additional equipment and ship the massive amounts of supplies required for the war while still reducing the overall number of workers.

Agencies have used temporary workers as a buffer, letting them go instead of permanent workers, perhaps because agencies did not believe reductions would last. Adopting this approach would significantly reduce overall turnover, however, because turnover rates for temporary workers are almost four times higher than those for permanent workers. At DoD, for example, temporaries account for a large share of turnover (see Table 16). Adopting different replacement rates for temporary and permanent workers may help an agency both to respond to short-term changes in the work load and to maintain the overall turnover rate.

Although the size of each agency's temporary work force varies, 10 of the 17 major civilian agencies have a temporary work force of 3 percent or more, comparable with that of DoD.[17] Most other agencies, therefore, could also tailor replacement limits to ensure that replacement rates reflect the size and nature of changes in work load.

17. Within DoD, temporary personnel made up between 3 percent and 6 percent of the civilian work force for the military services and 11 percent for defense agencies in 1992. For the size of the temporary work force in other agencies, see a report to the Congress by the Office of Personnel Management, *The Rights and Benefits of Temporary Employees in the Federal Government* (April 1993), p. 17.

## Effects of a Five-Year Freeze on Average Salary and Total Payroll

Besides mismatches in skills, the other chief criticism of hiring freezes is that they tend to increase seniority over time, distorting the composition of the work force and ultimately increasing the average cost of a civilian worker. Over the five years from 1987 to 1992, for example, the average salary of DoD's white-collar workers increased significantly even though the size of that work force declined modestly. Based on CBO's analysis of changes in the average salary of those workers, however, hiring restrictions were not primarily responsible for this increase. Although the partial hiring freeze increased average salary, other factors--primarily changes in occupational mix and grade structure--appear to play far larger roles. Were other agencies to adopt somewhat stricter hiring freezes, average salary would probably rise only modestly and would be offset by much larger savings in total payroll costs.[18]

Since other agencies are predominantly white-collar, the analysis focused on determining the factors accounting for changes in the average salary and the total payroll cost of DoD's white-collar workers. Between 1987 and 1992, the average salary of DoD's white-collar workers increased by 11 percent in real terms, and the size of the work force fell by 7 percent. Using data on the composition (grade and step) of the entire federal white-collar work force, CBO developed a model to estimate the effect on the average salary of white-collar workers of adopting different freeze policies to reduce the size of the work force over a five-year period. In all cases, the model compares average salary assuming that all workers who leave are replaced (no freeze) with a freeze policy that replaces some percentage of workers who leave (see Appendix C for a description of CBO's model).

Based on this model, with the 7 percent decrease in the size of DoD's white-collar work force that occurred between 1987 and 1992, average salary

18. Payroll is defined here to include total salary costs but not benefits.

would have increased by only 1.8 percent after five years. (DoD, or any federal agency, would have replaced 85 percent of the workers who left in this case--a replacement rate of more than four of every five workers who left.) This increase reflects small rises in average grade and average within-grade step. And even with these increases, an agency's payroll would have been 5.4 percent lower at the end of five years because the work force would be smaller (see Table 17). If the entire white-collar federal work force decreased by 7 percent, the total federal payroll would be $2.8 billion lower at the end of five years as a result.

If DoD--or any other federal agency--adopted a stricter hiring freeze, average salary would increase more, but the agency's payroll would also fall more. For example, CBO's model shows that average salary would be 4 percent higher after five years under a hiring freeze in which the size of the work force declined by 15 percent over five years. Agencies would be able to replace two of every three workers who left under this scenario, which is used as the basis for estimating the cost of the hiring freeze assumed in Chapter 2. This 4 percent increase in average salary reflects an increase in average within-grade step of 6 percent and in average grade of 3 percent. Even with this increase in cost result-

**Table 17.**
**Estimated Effect of a Five-Year Hiring Freeze on the Cost and Seniority of the Federal White-Collar Work Force**

| | Base Case: No Freeze | Percentage Change Over Base Case for a Freeze That Reduces the Size of the Work Force by 7 Percent | 15 Percent | 35 Percent |
|---|---|---|---|---|
| Size of the Work Force | 1.5 million | -7.0 | -15.0 | -35.0 |
| Average Salary | $36,000[a] | 1.8 | 4.0 | 11.5 |
| Average Grade | 9.2 | 1.5 | 3.3 | 9.1 |
| Average Within-Grade Step | 5.0 | 2.8 | 6.4 | 18.4 |
| Total Payroll[b] | $53.3 billion[a] | -5.4 | -11.6 | -27.5 |

SOURCE: Congressional Budget Office model using data provided by the Office of Personnel Management.

NOTE: The model estimates the effects on the 1990 federal white-collar work force in the fifth year after a freeze policy is adopted. To achieve a particular reduction in the size of the work force, an agency would need to vary the limits on the replacement of workers who leave. The desired reduction in the work force and the replacement rate needed to achieve that reduction are as follows:

| Reduction | Replacement Rate for Workers Who Leave |
|---|---|
| 7 percent | 85 percent (four of every five workers) |
| 15 percent | 66 percent (two of every three workers) |
| 35 percent | 0 percent (no workers) |

a. In 1993 dollars.

b. Includes total salary costs but not benefits.

**Table 18.**
**Changes in Payroll of DoD's White-Collar Workers, by Occupational Groups, 1987-1992 (In millions of 1993 dollars)**

| | Changes in Payroll Attributable to | | Changes in Payroll, 1987-1992 |
|---|---|---|---|
| | Changes in Occupational Mix[a] | Changes in Grade and Seniority Mix[b] | |
| Higher-Paid Occupations | | | |
| Scientists and engineers | 370 | 310 | 680 |
| Other professionals | 270 | 80 | 350 |
| Managers and administrators | 970 | 580 | 1,550 |
| Lower-Paid Occupations | | | |
| Technicians | -50 | 270 | 230 |
| Clerical | -740 | 280 | -460 |
| Other | -10 | 40 | 30 |
| All Occupations | 820 | 1,560 | 2,380 |

SOURCE: Congressional Budget Office estimates based on data provided by the Department of Defense.

NOTE: Payroll includes total salary costs but not benefits.

a. Effects on payroll of changes in each occupational group's share of the total DoD work force.

b. Effects on payroll of changes in average salary reflecting the distribution of workers by grade and step in each occupational group.

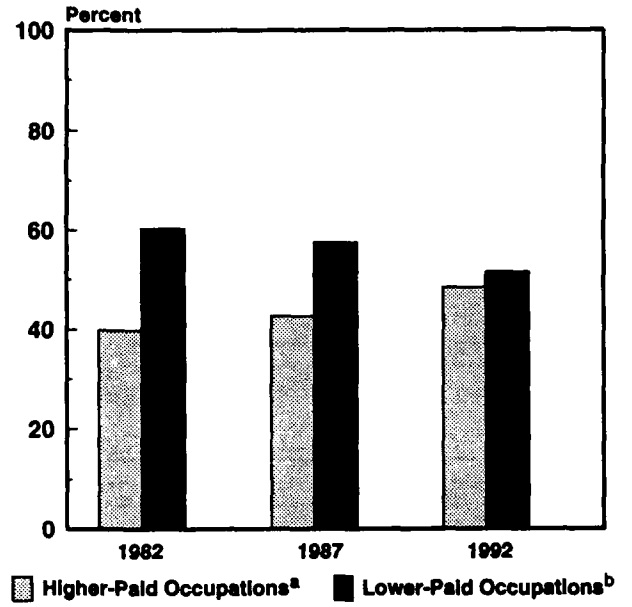
ing from the growth in seniority, an agency's payroll would still be 11.6 percent lower as the work force shrank by 15 percent (see Table 17). If this stricter hiring freeze was applied to the entire federal white-collar work force, payroll costs would fall by $6.1 billion.

Adopting a complete hiring freeze to decrease employment by 35 percent over five years would substantially increase average salary and decrease an agency's payroll costs. Compared with full replacement, a complete freeze would cause average salary to grow by almost 12 percent (2.3 percent annually), average grade by 9 percent, and average step by 18 percent. Nevertheless, an agency's payroll would fall by more than one-fourth (see Table 17).[18] That would amount to a decrease in payroll costs of $14.3 billion for the entire federal white-collar work force. Since agencies have seldom sustained complete hiring freezes for even a year, such a scenario is unlikely.

When hiring is restricted, average salary increases because an agency hires fewer new workers, who generally have lower grades and salaries than the workers remaining and the workers they replace. There are then fewer junior workers to offset the grade and step increases received by the remaining work force. The extent to which average salary increases depends in part on the strictness of the hiring freeze and in part on the distribution of the work force by grade and step (see Appendix C).

18. In all cases--no freeze, partial freeze, and total freeze--the work force is compared five years after the policy is adopted. Even when there are no restrictions on hiring, CBO's model estimates that the average salary of a civilian white-collar worker will increase by 5 percent after five years in real (inflation-adjusted) terms. Each year, about 10 percent of the work force leaves and is replaced with junior, less costly workers, thus lowering average salary. At the same time, however, the workers who remain receive grade and step increases, which increases average salary. With the current composition of the work force (in terms of grade and seniority), salary increases for the remaining work force are greater than decreases resulting from the influx of junior workers.

**Figure 4.**
**Change in Occupational Mix Among DoD's White-Collar Workers, 1982-1992**




SOURCE: Congressional Budget Office using data provided by the Department of Defense.

a. Includes scientists, engineers, other professionals, managers, and administrators.

b. Includes technicians, clerical workers, and other white-collar workers.

## Effects of Changes in Occupational Mix and Average Grade on Average Salary

Based on CBO's model of the effect of a hiring freeze, average salaries of DoD's white-collar workers would have increased by only 1.8 percent between 1987 and 1992. Instead, their salaries rose by 11 percent. Changes in the average grade and step in each occupation and changes in that occupation's share of the work force were responsible for much of the remaining increase, overwhelming the effects of hiring restrictions.

Examining changes in DoD's payroll costs for white-collar workers points up the role of each of these factors--a hiring freeze, changes in the occupational mix, and changes in average salary within occupations. The payroll cost of DoD's white-collar workers rose $2.4 billion (in 1993 dollars) between 1987 and 1992. Although it is impossible to disentangle fully the effects of hiring restrictions and other changes in grade, occupational mix, and seniority on salary, CBO's analysis suggests that the freeze played a relatively small role in increasing DoD's payroll.

To estimate the role of each factor, CBO analyzed how payroll costs for each occupational group fluctuated over time according to changes in their share of the work force and their distribution by grade and step, which determines average salary.[19] Based on this analysis, about one-third, or $800 million, of the increase in salary costs for DoD's white-collar workers between 1987 and 1992 resulted from the growing share of workers in higher-paid jobs (see Table 18). Almost half of DoD's work force in 1992 was made up of scientists and engineers, other professionals, and managers and administrative personnel, compared with 43 percent in 1987 and 40 percent in 1982 (see Figure 4). Average salaries and grades for these higher-paid occupations range from 30 percent to 60 percent above those of technicians, the occupational group closest to the average in both salary and grade.

The remaining $1.6 billion of the increase in payroll costs for DoD's white-collar workers reflected the effect of the partial hiring freeze ($400 million) and other increases in grade and step ($1.2 billion). Not only have occupations with higher pay and grades made up a larger share of DoD's work force, but average grade levels within occupations have also increased rapidly since 1987. The average grade of a white-collar worker grew by almost 9 percent between 1987 and 1992 (from GS-8.3 to GS-9.0). This increase in average grade also reflected relative increases in the number of supervisory workers (GS-10 to GS-15). Overall, supervisory personnel at DoD have increased from 40 percent to

19. To isolate the effect of occupational share from the effect of other changes in average salary within occupational groups, CBO compared salary costs of the 1987 and 1992 work forces with a simulated work force that had the occupational mix characteristic of the 1992 work force and the average salaries prevailing in 1987. All costs are shown in 1993 dollars (see Table 18).

48 percent of the total white-collar work force between 1987 and 1992 (see Table 19). Such increases continued at DoD even in the wake of the military drawdown that began in 1990.

Increases in grade play an important role in increasing average salary. To offset such increases--whether caused by shifts in the mix of occupations or shifts in the mix of grades within occupations--agencies can slow promotions, hire at the lowest appropriate level for the job, and review the grading of positions to ensure that grades accurately reflect responsibilities, particularly after reorganizations or decreases in work load. The Navy, for example, slowed promotions in 1992, and the evidence suggests that grade creep slowed throughout DoD in 1992 (see Table 19). Such changes may also help agencies to offset any smaller increases in salary resulting from hiring restrictions.

## Effects on Morale and Composition of the Work Force

Although hiring freezes increase average salaries, effects on morale are minimal, particularly compared with layoffs. Furthermore, hiring freezes are unlikely to affect the diversity of the work force. For example, after three years of partial freezes, the sex and racial composition of DoD's civilian work force remained the same. Although fewer employees were hired, they were similar in sex and race to those hired before the freeze (see Table 20). Based on DoD's experience, hiring freezes--even if continued over several years--will probably not reverse recent progress in achieving a diverse work force.

## Limitations of Hiring Freezes

The effect of hiring restrictions on average salary predicted by CBO's model of the entire federal white-collar work force could vary somewhat for particular agencies if the composition of their work force was substantially different from that of the white-collar work force as a whole. For example, average salary is likely to increase less in an agency with many senior workers eligible for retirement and more in an agency with lower overall turnover.

The Department of Defense has been able to reduce employment by 3 percent to 4 percent a year

**Table 19.**
**Changes in Distribution of DoD's White-Collar Workers by Grade, 1982-1992**

| Grade Level | Percentage of Total DoD Work Force | | | Average Annual Change (Percent) | | |
|---|---|---|---|---|---|---|
| | | | | Before Hiring Freeze, | During Hiring Freeze | |
| | 1982 | 1987 | 1992 | 1982-1989 | 1989-1991 | 1991-1992 |
| Supervisory Grades | | | | | | |
| GS-13 to GS-15 | 9.9 | 10.5 | 13.7 | 3.0 | 5.4 | 1.0 |
| GS-10 to GS-12 | 26.9 | 29.1 | 34.6 | 2.3 | 3.3 | 1.6 |
| Subtotal | 36.8 | 39.6 | 48.3 | n.a. | n.a. | n.a. |
| Nonsupervisory Grades | | | | | | |
| GS-7 to GS-9 | 22.6 | 22.8 | 21.6 | -0.3 | -0.9 | -0.3 |
| GS-4 to GS-6 | 33.4 | 31.9 | 27.9 | -1.1 | -3.3 | -1.8 |
| GS-1 to GS-3 | 7.2 | 5.7 | 2.3 | -6.6 | -26.8 | -4.8 |
| Subtotal | 63.2 | 60.4 | 51.8 | n.a. | n.a. | n.a. |
| Total | 100.0 | 100.0 | 100.0 | n.a. | n.a. | n.a. |

SOURCE: Congressional Budget Office using data provided by the Department of Defense.

NOTES: The Department of Defense imposed a hiring freeze in January 1990.

GS = General Schedule; n.a. = not applicable.

**Table 20.**
**Characteristics of DoD's Work Force Before and After the Partial Hiring Freeze**

| | Accessions[a] | | As a Percentage of Total Accessions | | As a Percentage of Total Work Force | |
|---|---|---|---|---|---|---|
| | 1989 | 1992 | 1989 | 1992 | 1989 | 1992 |
| Sex | | | | | | |
| Male | 58,335 | 27,711 | 50 | 51 | 63 | 63 |
| Female | 57,731 | 26,993 | 50 | 49 | 37 | 37 |
| Race[b] | | | | | | |
| Nonminority | 78,858 | 36,109 | 68 | 66 | 74 | 74 |
| Minority | 37,208 | 18,595 | 32 | 34 | 26 | 26 |
| All Workers | 116,066 | 54,704 | 100 | 100 | 100 | 100 |

SOURCE: Congressional Budget Office using data provided by the Department of Defense.

a. Includes all new employees except internal transfers.

b. Minorities include blacks, Hispanics, Native Americans/Alaskans, and Asians. All other racial groups are considered nonminorities.

with few negative effects by relying primarily on a hiring freeze and a small number of layoffs. Although some reductions reflected gradual, dispersed decreases as part of the military drawdown, others were a result of rapid reductions in work load or concentrated decreases stemming from management reforms or base closures. Reductions in other agencies may reflect a different combination of circumstances. The larger and more concentrated the reductions are in time, occupational skill, or location, the more difficult it tends to be for agencies to rely primarily on hiring freezes.

In addition, agencies may experience some shortages in particular skill categories. According to GAO, for example, DoD officials at various locations cited instances in which the partial hiring freeze prevented them from hiring personnel even when funding was available to carry out the required work. In other cases, facilities had positions available but had not filled them because of concern about further reductions in personnel.[20]

Finally, hiring freezes increase average salaries above what they would have been otherwise. Although the increase is not likely to be large, agencies faced with budgetary constraints would need to make additional changes in personnel policies to offset this effect.

# Early Retirement

Under an early-retirement option, employees can retire at a younger age and with fewer years of service than under regular retirement. To offer this option, agencies must first receive approval from the Office of Personnel Management. Until recently, OPM permitted agencies to offer early retirement only in cases of layoffs or major reorganizations. Since layoffs and major reorganizations have been relatively rare, early retirement has been of limited use as a means of reducing employment.

Last year, however, OPM granted authority to the Secretary of Defense to offer early retirement broadly in order to minimize layoffs during the defense drawdown. Under this new ruling, DoD can offer early retirement not only to employees in

20. General Accounting Office, *Defense Force Management: Challenges Facing DoD as It Continues to Downsize Its Civilian Work Force*, GAO/NSIAD-93-123 (February 1993), p. 7.

organizations facing layoffs but also to those working at neighboring facilities, which would open up jobs for employees facing layoffs.[21]

CBO's analysis suggests that wider use of early retirement could create employment opportunities for workers facing layoffs and could enable agencies to reduce the size of their work force by 1 percent to 2 percent annually. Experience suggests, however, that if separation incentives are available or under consideration, few people will take early retirement without them.

## Effects of Broad Use of Early Retirement

Even if the option of early retirement was widely available, many workers would resist accepting it because it imposes a financial penalty--a smaller pension than they would have received had they worked until eligible for regular retirement. Even at its peak in 1983, the acceptance rate for early retirement totaled only about 20 percent of eligible workers. In 1992, with harder economic times and with employees hoping for separation bonuses, acceptances reached a low point of 4 percent of those eligible.

Consider, for example, the case of an employee whose profile fits the average of all workers who are eligible for early retirement at DoD. With 27 years of service, that employee would receive an early-retirement pension at age 52 of about $19,000 per year--representing about 45 percent of the assumed final salary of $40,000. (As required by law, this annual pension reflects the 2 percent reduction for each year an employee retires under age 55.) If that employee waited until eligible for regular retirement at age 55 at the earliest, the pension earned would total $24,800, or 54 percent of a higher final pay of $44,100. Certainly, a variety of factors influence a decision to retire early, such as the availability of other work and family obligations; the immediate financial sacrifice involved, however, would make it unattractive for many people. Protected from a RIF by their seniority, many eligible employees would choose to continue service and increase the pensions they ultimately receive.

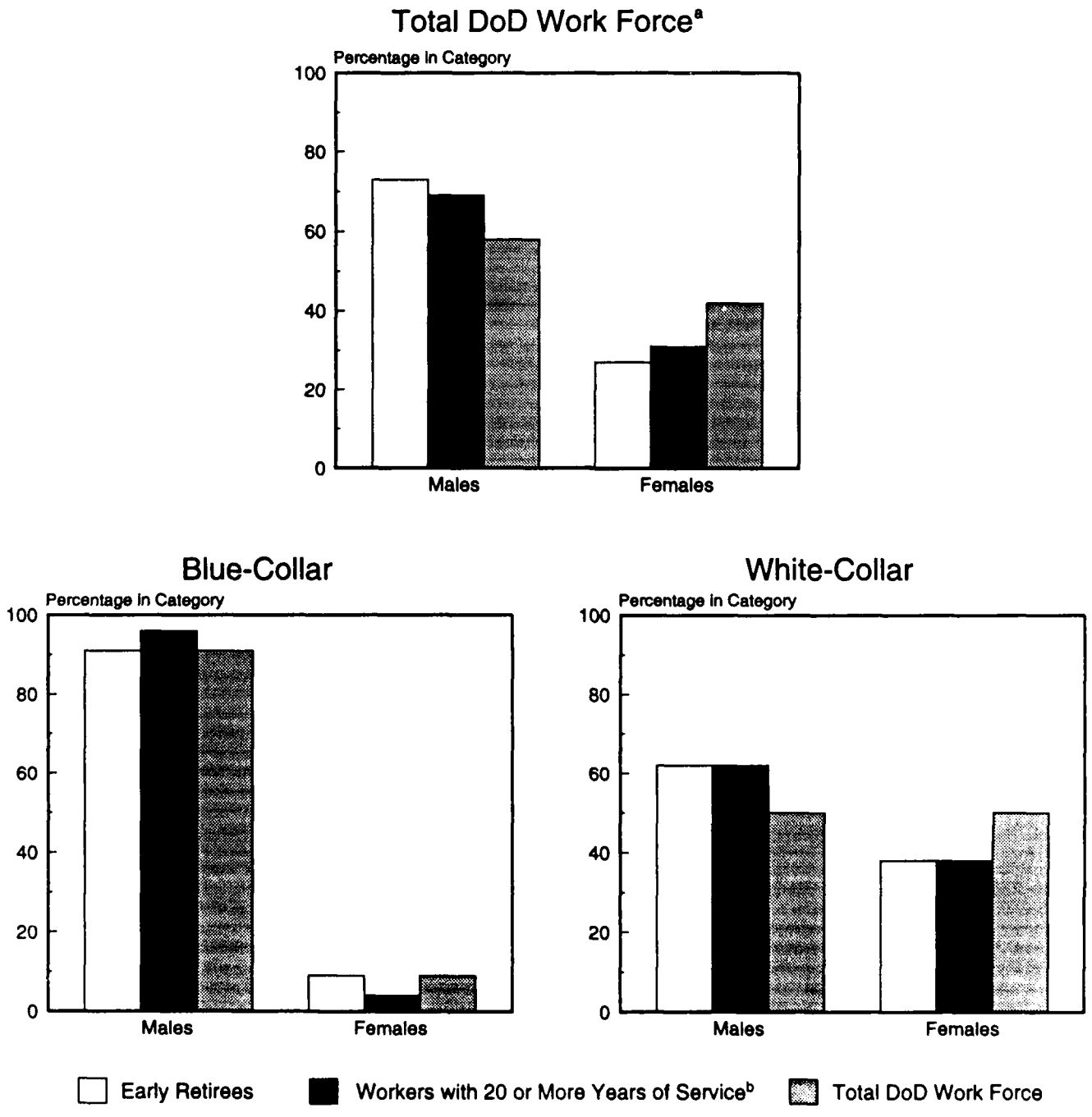
But even if most workers find early retirement unattractive, the large number of workers who are eligible means that only a small proportion of them need to accept to help reduce layoffs. Within DoD--and the government as a whole--about 12 percent of the work force is eligible for early retirement. If only 5 percent of the more than 100,000 eligible DoD employees accepted early retirement, an additional 5,000 positions would be made available for the 8,700 DoD employees that CBO estimated would be laid off in 1994 (see Table 6 in Chapter 1). These estimates reflect likely layoffs without the use of separation incentives. If the acceptance rate was midway between the historical high and low points, or 12 percent, and half of the workers who separated had the same skills as those facing layoffs, early retirement could reduce by more than two-thirds the number of likely layoffs (from 8,700 to 2,700) at DoD.

Other agencies could also reduce layoffs by offering early retirement. Or if agencies chose not to fill positions vacated, wider use of early retirement could reduce the work force by 1 percent to 2 percent a year, depending on the acceptance rate.

If separation incentives are available or under consideration, however, early retirement without incentives is unlikely to attract many eligible workers. When separation incentives for DoD were being considered in 1992, few workers accepted offers of early retirement. (In addition, far fewer of the workers eligible for regular retirement chose to retire than in previous years.) According to then Assistant Secretary of Defense Christopher Jehn, for example, DoD received almost no acceptances at Mare Island Navy Shipyard in 1992 despite the likelihood of RIFs, because workers eligible for retirement held

21. OPM's standard regulations limit offers of early retirement to employees age 50 with 20 years of service or any age with 25 years of service if 5 percent or more of the employees will be separated in the section of the agency that is undergoing a reduction in force, reorganization, or transfer of function, or if 20 percent of employees would be subject to an immediate reduction in pay. This authority was expanded to apply to particular occupations and locations throughout DoD during the drawdown in the summer of 1992. See The White House, Office of the Press Secretary, "Defense Adjustment Assistance" (fact sheet, May 28, 1992), p. 4; and Office of Management and Budget, *1993 Mid-Session Review: The President's Budget and Economic Growth Agenda* (1993), p. 255

**Figure 5.**
**Composition of Early Retirees and the Work Force at DoD, by Sex and Occupation, 1990-1992**

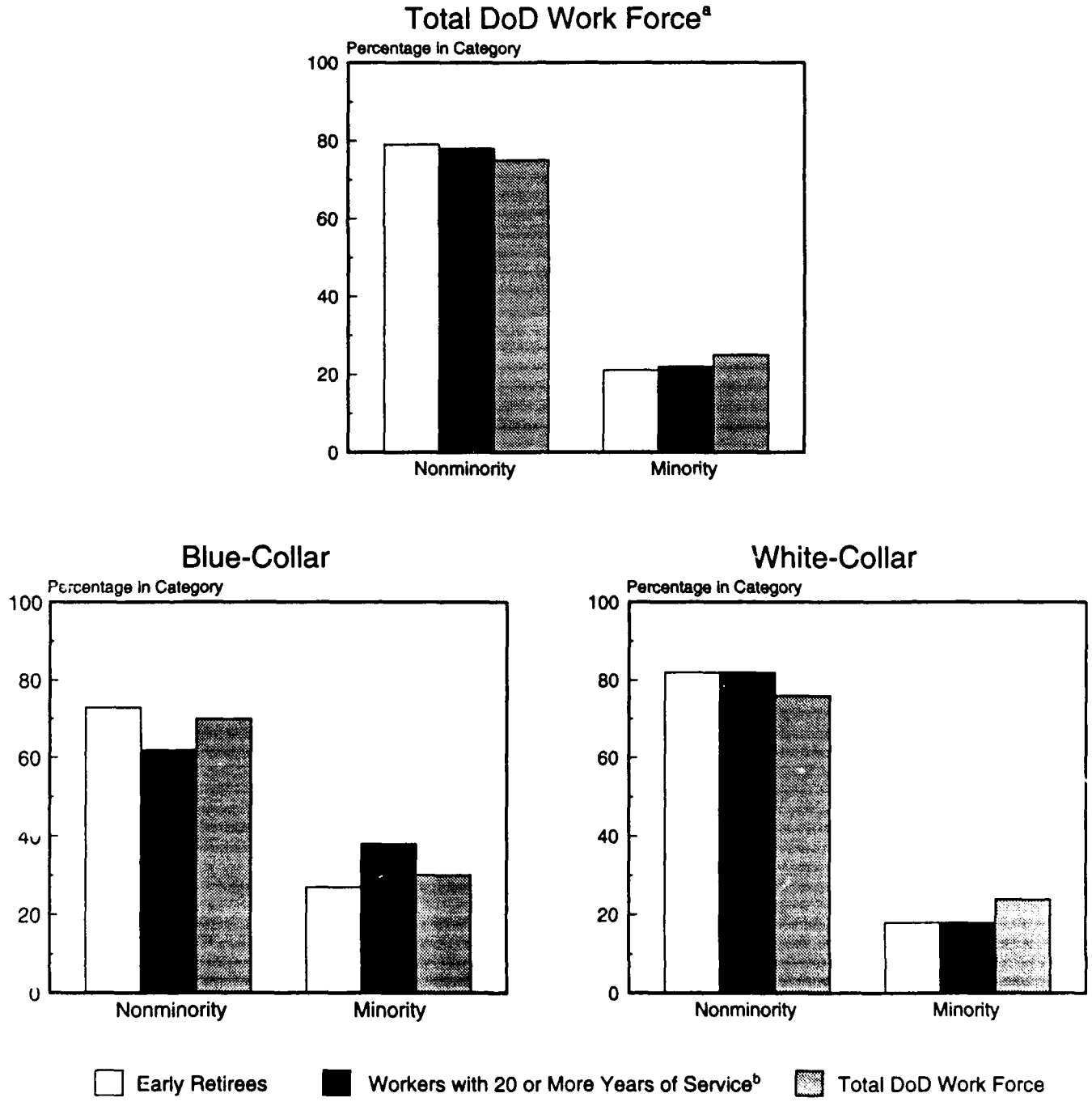



SOURCE: Congressional Budget Office using data provided by the Department of Defense.

a. At end of fiscal year 1992.

b. Workers who are likely to be eligible for early retirement.

**Figure 6.**
**Composition of Early Retirees and the Work Force at DoD, by Race and Occupation, 1990-1992**




SOURCE: Congressional Budget Office using data provided by the Department of Defense.

NOTE: Minorities include blacks, Hispanics, Native Americans/Alaskans, and Asians. All other racial groups are considered nonminorities.

a. At end of fiscal year 1992.

b. Workers who are likely to be eligible for early retirement.

back "to see what Congress would provide. This led to more involuntary separations than ordinarily would have been necessary."[22] DoD was also concerned that the cost of incentives would deplete funds for salaries of civilian workers, thus making more layoffs necessary. For early retirement without incentives to be an effective method of reducing layoffs, however, workers must be convinced that they will not have the option of receiving an incentive. (The effect of incentives on turnover is covered in the next chapter.)

## Effect on the Composition of the Work Force and Average Salary

Widespread use of early retirement without incentives would probably have only small effects on the diversity of the work force and the average salary of a worker. Because workers taking early retirement are more likely to be male and nonminority, however, greater use of this option could marginally increase the diversity of the work force and slightly reduce average salary.

Of the almost 7,000 workers who opted for early retirement at DoD between 1990 and 1992, for example, males accounted for 73 percent of the acceptances--a share that is larger than their estimated 60 percent share of the work force as a whole and their 70 percent share of eligible workers (those with 20 or more years of service) (see Figure 5 on page 50).[23]

Within the blue-collar work force, males took early retirement in proportion to their share of that work force. In the white-collar work force, males took early retirement in proportion to their share of those likely to be eligible and at a rate higher than their share of the work force (see Figure 5). These findings suggest that widespread use of early retirement would slightly increase the percentage of women in the work force.

The share of nonminority workers taking early retirement was slightly larger than their share of the overall work force. Among white-collar workers, nonminorities took early retirement in proportion to their share of eligible workers and at a higher rate than their share of the work force. Among blue-collar workers, nonminorities took early retirement at a somewhat higher rate than their share of the eligible population and in proportion to their share of the work force (see Figure 6 on page 51). Thus, a greater reliance on early retirement could slightly increase the percentage of minorities in the work force.

Early retirement could also slightly reduce seniority: workers with greater seniority are the ones who leave, and managers are likely either to not fill the positions or to fill them with more junior workers. At most, only about 2 percent of the work force is likely to accept offers, and the effect on seniority and average salary would therefore be small.

22. Testimony of Christopher Jehn, Assistant Secretary of Defense for Force Management and Personnel, before the Subcommittee on Federal Services, Post Office, and Civil Service, Senate Committee on Governmental Affairs, February 20, 1992, p. 178.

23. To represent the composition of the total DoD civilian work force and those workers likely to be eligible for retirement (that is, workers with 20 or more years of service), CBO used data on the sex, race, and occupational composition of the Army's civilian work force. The profile of the Army civilian work force mirrors that of the entire DoD civilian work force.

Chapter Five

# Use of Separation Incentives at the U.S. Postal Service and the Department of Defense

Incentives are seen as a way for organizations facing reductions in employment to avoid a large number of layoffs, provide a "soft landing" for workers who lose their jobs, and reshape the work force. The U.S. Postal Service and the Department of Defense both offered incentives to substantial numbers of employees in calendar years 1992 and 1993.

To help agencies meet the employment reductions proposed in the National Performance Review, the Congress is considering a proposal by the Administration to give all agencies the authority to offer separation incentives. The two bills under consideration--H.R. 3345 and S. 1535 (the Federal Work Force Restructuring Act of 1993)--would give other agencies the same authority that the Department of Defense was given in 1993. The bills would permit agencies for one year to offer workers the lesser of $25,000 or the severance pay to which they would be entitled if they were laid off.

Several issues arise in looking at the effectiveness of using separation incentives to reduce employment.

- Will separation incentives enable agencies to avoid large numbers of layoffs and restructure their work force?
- By how much will agencies' turnover increase above normal rates?
- Will agencies be able to target incentives toward the "right" workers so as to avoid later having to replace workers who received incentives and left?

The Congressional Budget Office analyzed the recent experience of the Postal Service and the Department of Defense in using incentives. Separation incentives have helped these agencies to minimize layoffs, increase voluntary turnover, and eliminate particular positions. DoD, however, was not able to eliminate layoffs, and both agencies' work forces experienced some disruption. Moreover, normal turnover has been lower than usual at the two agencies both before and while incentives were offered. In addition, the Postal Service replaced many of the workers who received incentives, and both agencies incurred costs that exceeded the cost of relying on traditional methods of reducing employment. Agency managers would need to evaluate their particular circumstances in order to decide which method of reducing the size of their work force is most appropriate. If agencies were able to offer separation incentives, they would be wise to target and plan them carefully. The proposed legislation would permit such targeting.

# Avoiding Layoffs and Restructuring the Work Force

Experience at the Postal Service and DoD suggests that incentives can help agencies to reduce layoffs and restructure their work force.

## Experience at the Postal Service

Faced with the prospect of raising postal rates in order to meet a potential $2 billion deficit in 1993, the Postal Service chose instead to use separation incentives to eliminate about 30,000 administrative and overhead positions and to make other productivity improvements. The Postal Service offered a separation incentive of six months' salary to all employees who were eligible for early or regular retirement.[1] Rather than target the incentive, the Postal Service decided to offer it to all eligible employees for reasons of equity and because the Postal Service did not expect enough employees in the abolished jobs to accept the offer. The incentive was available only for a short time--between August and November 1992--to reduce uncertainty for the work force as a whole and hasten the return to normal business.[2]

Almost 48,000 workers took the incentive--significantly more than the 30,000 jobs the Postal Service planned to abolish. Of those taking the incentive, 13,000 were in positions that had been eliminated. The Postal Service hoped that the openings created by the other workers taking the incentive would provide placement opportunities for workers whose jobs had been abolished but who either were not eligible for the incentive or chose not to take it. By November 1993, an additional 10,000 workers whose jobs had been eliminated had been transferred to another job or had left. That brought the total of overhead positions eliminated to 23,000--7,000 short of the Postal Service's goal of 30,000.

Although reductions were concentrated by occupational group and compressed within a short time period, the use of incentives enabled the Postal Service to avoid layoffs. Of its 118,000 administrative and overhead positions, the Postal Service planned to abolish 30,290 over two years. These positions included 8,750 administrative jobs (450 to 500 in senior management) and 21,540 other jobs characterized by the Postal Service as overhead--those that do not involve the processing, distribution, or delivery of the mail.[3] Had the Postal Service relied on a total freeze on hiring, it could have taken four to five years to complete a reduction of that magnitude.

Although the Postal Service avoided layoffs, it experienced some disruption to its work force. About 10,000 of the 17,000 workers in abolished positions were transferred to new jobs; many of those transfers involved moving to a position at a lower grade, relocating, or retraining. And more than 7,000 employees remain in jobs that the Postal Service intends to abolish.

Incentives also enabled the Postal Service to change the proportions of the career and noncareer work forces. The size of the permanent career work force fell by 6 percent overall (see Table 21). Management, administrative, and technical positions fell by 16 percent, and the number of senior management positions dropped by half. But this drop was largely offset by a 31 percent increase in the number of noncareer workers. (The noncareer work force includes temporary, casual, and the new "transitional" workers discussed below.) Overall, the size of the work force changed little.

By the end of 1993, the noncareer work force made up 15 percent of Postal Service workers compared with 12 percent before the restructuring. All of the increase in the noncareer work force

1. U.S. Postal Service, "New Management Structure Puts Focus on the Customer," *Postal News*, August 7, 1992. Workers over age 50 with at least 20 years of service or of any age with at least 25 years of service were eligible for early retirement. See also Marvin Runyon, Postmaster General of the United States, "Process for Change" (press release, Washington, D.C., August 7, 1992).

2. Availability was extended to January 1993 in the Miami region because of Hurricane Andrew.

3. U.S. Postal Service, "New Management Structure Puts Focus on the Customer," p. 1.

**Table 21.**
**Changes in U.S. Postal Service Employment, 1992-1993**

| | Before Restructuring (July 1992) | | After Restructuring (September 1993) | | Change, 1992-1993 | |
|---|---|---|---|---|---|---|
| | Number | Percentage of Total | Number | Percentage of Total | Number | Percent |
| Career (Permanent) | | | | | | |
| Senior management | 1,193 | a | 571 | a | -622 | -52 |
| Other management, administrative, and technical | 87,588 | 11 | 73,672[b] | 9 | -13,916 | -16 |
| Nonsupervisory | 640,562 | 78 | 614,494 | 75 | -26,068 | -4 |
| Subtotal | 729,343 | 88 | 688,737 | 85 | -40,606 | -6 |
| Noncareer (Temporary)[c] | | | | | | |
| Temporary/casual | 91,893 | 11 | 83,884 | 10 | -8,009 | -9 |
| Transitional | 4,614 | 1 | 42,272 | 5 | 37,658 | 816 |
| Subtotal | 96,507 | 12 | 126,156 | 15 | 29,649 | 31 |
| Total | 825,850 | 100 | 814,893 | 100 | -10,957 | -1 |

SOURCE: Congressional Budget Office using data provided by the U.S. Postal Service.

a. Less than 0.5 percent.

b. Includes 427 workers with senior management status who are occupying other management positions.

c. Includes temporary, casual, and other employees who substitute for workers on leave.

reflects reliance on a new type of temporary worker. As part of a union agreement, the Postal Service may now hire transitional workers, who can be employed for one to three years until changes in automation are completed. The Postal Service has apparently replaced many of the employees who took incentives with transitional workers, whose number grew by almost 38,000 between July 1992 and September 1993.

Greater reliance on a temporary work force not only may increase flexibility in meeting work requirements but also may reduce costs. The salaries of noncareer workers are typically half those of unionized career workers ($9 to $10 an hour compared with $22 an hour). Recently, however, the equity of long-term reliance on temporary workers (with their lower salaries and no benefits) has been questioned. In reaction to the death of James Hudson, a temporary employee for eight years who took care of the Lincoln Memorial, Congressman Frank McCloskey introduced H.R. 2648, a bill that would allow temporary workers employed for more than six months to purchase life and health insurance through the government; it also would provide retirement benefits for temporary employees who work for the government for more than four years. If enacted, these changes would reduce the savings that agencies would realize by relying more on temporary workers for long periods of time.

## Experience at the Defense Department

The Department of Defense is using separation incentives not as part of an overall reorganization but to ease the transition for its civilian employees affected by the defense drawdown.[4] Section 5597(b) of the National Defense Authorization Act for Fiscal

4. This use of incentives parallels the more generous bonuses provided to military personnel.

Year 1993 authorizes the Secretary of Defense to offer incentives to civilian workers between 1993 and 1997 in order to minimize layoffs resulting from reductions in force, base closures, reorganizations, transfers of functions, or other, similar actions.

The Defense Department designed its incentives to avoid layoffs in both 1993 and 1994. CBO estimated that without incentives, DoD would lay off 14,600 workers--5,900 in 1993 and 8,700 in 1994. DoD offered incentives not only to workers in particular occupations, grades, and locations in which jobs had been abolished but also to those in similar categories at other locations in order to increase employment opportunities for personnel facing layoffs. DoD also required that salary savings exceed costs by the second year.[5] In 1993, 3,000 workers were laid off--far fewer than the 14,600 CBO estimated would have been laid off in 1993 and 1994 without incentives.

Incentives apparently have also helped the Defense Department to reduce employment at a faster rate than anticipated. In fact, Acting Deputy Assistant Secretary of Defense Ronald P. Sanders recently testified that as of the end of fiscal year 1993, DoD's civilian work force would be almost 70,000 below 1992's level, or about 25,000 lower than planned.[6] It is not clear whether DoD will replace any of these workers.

# Effects of Incentives on Turnover

With the use of incentives, agencies expect to increase turnover by inducing additional workers to leave. But evidence from the Postal Service and DoD suggests that incentives may not increase turnover significantly. Although total retirement rates in the year incentives were offered were substantially higher than normal in both agencies, much of the increase appears to result from the departure of workers who would normally have left the previous year but stayed another year in hopes of getting the incentive. Such delays may also reflect the slow economy in recent years as well as the reaction of workers anticipating separation incentives.

## Effect on Regular-Retirement Rates

Based on recent experience at the Postal Service and DoD, 2.5 percent and 2.3 percent, respectively, of the permanent work force take regular retirement each year. In 1993, when most incentive offers were accepted, the number of regular retirees jumped above normal levels by 15,000 at DoD and 3,100 at the Postal Service. The percentage of the work force that retired almost doubled at DoD and rose by almost 25 percent above normal levels at the Postal Service in 1993 (see Table 22).

These increases, however, appear to overstate the effect on retirement rates for the longer term. Increases in the number of retirements may largely reflect delayed retirements by workers who anticipated receiving incentive payments. In the year before incentives were offered, regular retirements without incentives were about half of normal levels--9,765 at the Postal Service and 12,025 at DoD. (Incentives were not available to Postal Service employees until August 7, 1992--only two months before the close of the fiscal year.)

When incentives were offered, total regular retirements--including both workers who received incentives and those who did not--jumped in 1993 to 3.1 percent of the work force at the Postal Service and to 4.2 percent of the work force at the Department of Defense (see Table 22).[7] Even though incentives were also available to postal employees

5. Memorandum from Christopher Jehn, Assistant Secretary of Defense for Force Management and Personnel, to Secretaries of the military departments and Directors of defense agencies, "Separation Pay Incentives to Civilian Employees," December 30, 1992; and Memorandum from Ronald P. Sanders, Acting Deputy Assistant Secretary of Defense, to Secretaries of the military departments and Directors of defense agencies, "Civilian Separation Pay Implementing Instructions," April 25, 1993.

6. Testimony of Ronald P. Sanders before the Subcommittee on Compensation and Employee Benefits and the Subcommittee on the Civil Service, House Committee on Post Office and Civil Service, October 13, 1993.

7. Some Postal Service employees retired before incentives were offered, and only some DoD employees were offered incentives. Most of the Postal Service employees who accepted the offer did so in 1993.

**Table 22.**
**Effect of Incentives on Regular and Early Retirement at the U.S. Postal Service and Department of Defense**

| Agency/Year | Number Who Retired | | | Retirees (As a percentage of the permanent work force) |
|---|---|---|---|---|
| | Without Incentives | With Incentives | Total | |
| **Regular Retirees** | | | | |
| Postal Service | | | | |
| Average of 1990 and 1991 | 19,170 | n.a. | 19,170 | 2.5 |
| 1992 | 9,765 | 2,107 | 11,872 | 1.6 |
| 1993 | 2,812 | 19,474 | 22,286 | 3.1 |
| Average of 1992 and 1993 | 6,289 | 10,791 | 17,079 | 2.3 |
| Department of Defense | | | | |
| Average of 1987 through 1991 | 22,167 | n.a. | 22,167 | 2.3 |
| 1992 | 12,025 | n.a. | 12,025 | 1.3 |
| 1993 | 26,461 | 11,100[a] | 37,561 | 4.2 |
| Average of 1992 and 1993 | 19,243 | 5,550 | 24,793 | 2.8 |
| ***Early Retirees*** | | | | |
| Postal Service | | | | |
| Average of 1990 and 1991 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 4,162 | 4,162 | 0.6 |
| 1993 | 0 | 22,077 | 22,077 | 3.1 |
| Average of 1992 and 1993 | 0 | 13,120 | 13,120 | 1.8 |
| Department of Defense | | | | |
| Average of 1987 through 1991 | 2,794 | n.a. | 2,794 | 0.3 |
| 1992 | 414 | n.a. | 414 | 0 |
| 1993 | 12,702 | 13,500[a] | 26,202 | 2.9 |
| Average of 1992 and 1993 | 6,558 | 6,750 | 13,308 | 1.5 |

SOURCE: Congressional Budget Office using data from the U.S. Postal Service and the Department of Defense.

NOTES: Data are for the permanent work force only, because only permanent employees were eligible for incentives.

n.a. = not applicable.

a. This estimate is based on data presented in testimony by Ronald P. Sanders, Acting Deputy Assistant Secretary of Defense, before the Subcomittee on Compensation and Employee Benefits and the Subcommittee on the Civil Service, House Committee on Post Office and Civil Service, October 13, 1993.

for the last two months of fiscal year 1992, total retirements that year were still almost 40 percent below normal levels.

The average number of regular retirements for both the year before and the year during which incentives were offered was 17,100 at the Postal Service and 24,800 at DoD (see Table 22). As a percentage of the work force, that is slightly below the normal rate at the Postal Service and about 20 percent above the normal rate at the Department of Defense. Some personnel specialists at DoD are concerned that regular retirements may also fall in future years--as has already occurred at the Postal Service--simply because the pool of eligible workers will be smaller.

## Effect on Early-Retirement Rates

At both the Postal Service and DoD, the availability of incentives increased the number of workers taking early retirement far above levels in previous years when incentives were not offered (see Table 22). This increase reflected both the attractiveness of the incentives and the fact that early retirement has previously been offered to very few workers. A total of 3.7 percent of the work force at the Postal Service accepted offers of early retirement with an incentive in 1992 and 1993 when it was offered to all eligible workers. At DoD, 2.9 percent of the work force took early retirement in 1993 when it was offered to workers facing layoff or to workers who, by leaving, might create an employment opportunity for other workers facing layoff.

Although incentives will indeed increase the number of workers taking early retirement, some of this increase could probably be achieved without incentives. The percentage of workers accepting offers of early retirement without an incentive has varied widely in the past decade--from a high of 20 percent of those eligible in the early 1980s when layoffs were threatened at nondefense agencies, to a low of 4 percent in 1992 at DoD when the Congress was actively considering providing incentives. Based on this history and the number of eligible workers, early retirement without an incentive could attract 1 percent to 2 percent of the work force if it was offered to all who were eligible (see Chapter 4).

It is, of course, difficult to predict how many workers would accept an offer of early retirement without an incentive if it was offered to all those eligible. It is therefore also hard to estimate the extent to which incentives would increase the number of workers taking early retirement beyond the number who would have taken it without an incentive. With incentives being seriously considered, few workers are likely to accept early retirement without one. However, if incentives were not a prospect, if layoffs were likely, or if an extension of the age of eligibility to retire was under consideration, early retirement without an incentive could be more widely acceptable than it has been recently.

## Effect on Resignation Rates

Only the Department of Defense has offered incentives to workers who resign, and that experience suggests that incentives are not likely to increase resignations much above normal rates. Other agencies would also have this authority if either of the bills under consideration was passed.

In a typical year, about 2.7 percent of DoD's permanent work force quits. (The quit rate includes all workers who leave for reasons other than retirement, transfer, layoff, disability, or death, or for unspecified reasons.) Including workers who took incentives, DoD's quit rate in 1993 was only 2.8 percent, about the same as the normal rate (see Table 23). As with regular retirement, part of this increase may reflect the abnormally low number of quits in 1992. The average quit rate for 1992 and 1993 combined was lower than the normal rate.

## Effect on Future Turnover

The use of any type of separation incentives may reduce normal turnover in later years. Since workers taking early or regular retirement would have done so sometime in the next several years, future retirements without incentives may be lower because the pool of eligible workers is smaller. Moreover, employees who expect to become eligible for retirement may decide to delay retiring or resigning unless they receive a bonus. Should further reductions in the work force be required, lower turnover would

**Table 23.**
**Effect of Incentives on the Number of DoD Employees Who Quit**

| Year | Number Who Quit | | | Employees Who Quit (As a percentage of the permanent work force) |
|---|---|---|---|---|
| | Without Incentives | With Incentives | Total | |
| Average of 1987 Through 1991 | 25,542 | n.a. | 25,542 | 2.7 |
| 1992 | 16,378 | n.a. | 16,378 | 1.8 |
| 1993 | 19,657 | 5,400[a] | 25,057 | 2.8 |
| Average of 1992 and 1993 | 18,018 | 2,700 | 20,718 | 2.3 |

SOURCE: Congressional Budget Office using data from the Department of Defense.

NOTES: The quit rate includes all workers who leave for reasons other than retirement, transfer, layoff, disability, or death, or for unspecified reasons.

*Data are for the permanent work force only.*

n.a. = not applicable.

a. This estimate is based on data presented in testimony by Ronald P. Sanders, Acting Deputy Assistant Secretary of Defense, before the Subcommittee on Compensation and Employee Benefits and the Subcommittee on the Civil Service, House Committee on Post Office and Civil Service, October 13, 1993.

make it more difficult for agencies to rely on the traditional methods of reducing employment and could increase the likelihood of layoffs.

# Targeting Incentives

The Department of Defense and the Postal Service adopted different approaches to offering incentives. The Postal Service limited incentives to workers eligible for early or regular retirement but did not target by skill. DoD offered incentives to workers in particular occupations at particular locations who would resign or were eligible for early or regular retirement. If the number of workers applying for the incentive exceeded the number of jobs abolished, the services selected workers based on seniority.

Even with targeting, the number of workers receiving incentives is likely to exceed the number of jobs abolished, making incentives an expensive option. Furthermore, some of the workers who leave will probably need to be replaced, making it more difficult for agencies to realize the anticipated savings.

## Experience at the Postal Service

In the fall of 1992, the Postal Service paid incentives to 48,000 workers to abolish some 30,000 positions. By the end of 1993, however, the Postal Service had eliminated only 23,000 positions, 7,000 short of its goal. (The Postal Service plans to abolish these 7,000 jobs in 1994.) For each job abolished, it had paid two incentives.[8] About 13,000, or one-quarter of the workers taking incentives, were in abolished positions. About 10,000 of the remaining 17,000 workers who did not take the incentive but were in abolished positions were transferred to other jobs that became available as a result of the incentives. The Postal Service estimates that incentive payments cost almost $900 million but projects that the resulting reduction in employment will save $1.3 billion a year by 1994.

Based on recent employment levels and labor costs, however, the Postal Service may have difficulty realizing those savings. Eliminating 23,000 positions would have decreased its employment

8. The Postal Service paid separation incentives to 47,828 workers in 1992 and 1993 and abolished 23,242 positions, a ratio of 2.1 incentives per job abolished.

levels by at least 3 percent if nothing else had changed. As of July 1993, however, the Postal Service's monthly employment (on a full-time-equivalent basis) was 2.5 percent, or 16,620 workers, higher than a year earlier, before the restructuring.[9] Although revenue, which reflects mail volume, increased 2 percent during this period, volume would not necessarily increase employment levels. In the previous year, for example, revenue increased by 4.1 percent with a negligible increase in hours worked.

Costs were higher for two reasons. First, almost 70 percent of the workers taking incentive payments were in lower-paid, nonsupervisory positions, such as clerk. To maintain the services those workers provided, the Postal Service hired additional non-career workers; overtime also increased by 40 percent for all types of workers. Second, the Postal Service, as part of an agreement with the National Association of Supervisors, continued to pay displaced supervisors their former salaries as well as standard annual increases.

## Experience at the Department of Defense

DoD paid incentives to about 30,000 workers in 1993. Because its policy called for targeting separation incentives toward particular positions based on local requirements, DoD workers taking the incentives are more likely to be in positions that were abolished or to open up positions for those facing layoffs than were workers at the Postal Service. Based on CBO's estimate of layoffs in 1993 and 1994, however, DoD is paying at least 2.6 incentives for each layoff avoided, even higher than the Postal Service's experience.[10]

Separation bonuses are estimated to cost about $700 million in 1993, with payments going primarily to early and regular retirees. DoD expects to recoup this cost within two years. But its costs will decline only if abolished positions are not refilled or if managers fill vacated positions with lower-paid workers rather than promote from within, which is the customary practice. Although DoD has not specified any policies to limit the hiring of replacements, budgetary pressures are likely to restrain rehiring.

Even if some employees were replaced, an agency could still realize savings if the workers taking the incentives had a higher salary than their replacements. DoD's experience so far provides only limited evidence about who was most likely to take the incentive. Based on initial data, the average worker taking the incentive had 26 years of service compared with 15 years for the average DoD employee. The seniority of this group reflects the fact that more than 80 percent of workers taking the incentive were early or regular retirees.[11] Such senior workers have higher average salaries than the average DoD worker.

It is not yet clear whether incentives can be used to meet the NPR's goal of reducing the number of managers and administrators. According to initial data from the Army on 10,000 workers who took incentives in 1993, the percentage of workers who were in upper management (GS-13 to GS-15) was lower than their share of the work force as a whole. The percentage of blue-collar workers who took incentives was higher than their overall share of the Army's civilian work force. But these findings may reflect the greater likelihood that these workers would face layoffs and would therefore be the most likely to be offered incentives, not whether the incentive payment would be attractive to higher-paid workers.

9. Because the Postal Service's work load is seasonal, CBO compared July 1992 (before the restructuring) with July 1993 (after workers who took the incentives had left).

10. DoD paid separation incentives to about 30,000 workers in 1993 to avoid layoffs in 1993 and 1994. CBO estimated that layoffs would have totaled 14,600 without incentives. In 1993, DoD laid off 3,000 workers, thus avoiding 11,600 layoffs by using incentives--a ratio of 2.6 payments for each layoff avoided thus far. Since DoD plans to offer additional incentive payments in 1994, however, the ratio of incentive payments to layoffs avoided is likely to be higher than 2.6.

11. Testimony of Ronald P. Sanders, October 13, 1993.

# Pros and Cons of Incentives

Based on the experience of the U.S. Postal Service and the Department of Defense, incentives may help agencies to reduce the size of their work force while avoiding large-scale layoffs. Incentives may also initially increase turnover among workers who are eligible for early or regular retirement, allowing agencies to recover from the recent dip in retirement. If incentives are targeted toward workers in jobs an agency wants to abolish, agency managers may not have to replace those employees to meet the work load. Finally, incentives may generate substantial savings as long as workers are not replaced or are replaced with less costly workers.

Incentives, however, are likely to reduce normal turnover both before and while they are offered, making it more difficult for agencies to reduce the work force using a freeze or early retirement. Moreover, as the pool of workers eligible for early or regular retirement shrinks, offering incentives may not increase turnover as much as it did initially, even if incentives were made available in later years. Even when incentives are targeted, agencies may have trouble ensuring that the employees who leave are the ones the agency wants to lose, which could mean lower savings. In the near term, incentives in many cases are likely to be more expensive than relying on the traditional methods of reducing employment.

# Appendixes

Appendix A

# Growth of the Federal Civilian Work Force

This appendix sets out employment levels, by agency, for fiscal years 1982 through 1992.

**Table A-1.**
**Growth of the Federal Civilian Work Force, by Branch and Agency, Fiscal Years 1982-1992 (In thousands of workers)**

| | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
|---|---|---|---|---|---|---|---|---|
| Legislative Branch | 39.3 | 39.4 | 39.6 | 39.4 | 37.8 | 37.6 | 38.1 | 37.9 |
| Judicial Branch | 15.7 | 16.2 | 16.8 | 17.6 | 18.6 | 19.5 | 20.8 | 21.5 |
| Executive Branch | | | | | | | | |
| Departments | | | | | | | | |
| State | 24.0 | 24.0 | 24.4 | 25.1 | 25.7 | 25.4 | 25.7 | 25.3 |
| Treasury | 122.3 | 124.5 | 129.8 | 134.7 | 138.3 | 147.0 | 162.8 | 163.5 |
| Defense | 1,027.6 | 1,064.5 | 1,085.5 | 1,129.1 | 1,112.3 | 1,133.1 | 1,090.2 | 1,116.8 |
| Justice | 55.4 | 57.6 | 60.3 | 62.9 | 65.3 | 67.7 | 73.4 | 78.9 |
| Interior | 78.3 | 78.3 | 77.1 | 76.2 | 74.2 | 72.5 | 74.0 | 75.2 |
| Agriculture | 120.3 | 117.8 | 117.5 | 115.4 | 111.2 | 111.0 | 115.2 | 117.8 |
| Commerce | 35.3 | 35.6 | 35.1 | 35.5 | 35.1 | 34.5 | 39.5 | 49.1 |
| Labor | 19.5 | 19.3 | 18.6 | 18.3 | 18.0 | 17.8 | 18.1 | 18.4 |
| Health and Human Services | 149.4 | 149.5 | 146.6 | 141.8 | 136.9 | 130.3 | 123.9 | 122.6 |
| Housing and Urban Development | 14.9 | 14.1 | 12.7 | 12.3 | 11.9 | 12.5 | 13.2 | 13.4 |
| Transportation | 61.5 | 63.0 | 62.6 | 62.4 | 61.6 | 61.7 | 62.7 | 64.6 |
| Energy | 18.6 | 17.5 | 17.2 | 16.8 | 16.7 | 16.7 | 16.8 | 17.1 |
| Education | 5.8 | 5.6 | 5.3 | 5.1 | 4.7 | 4.6 | 4.7 | 4.6 |
| Veterans Affairs[a] | 235.1 | 237.7 | 240.5 | 244.7 | 243.8 | 246.3 | 246.7 | 245.2 |
| Subtotal | 1,968.0 | 2,009.0 | 2,033.2 | 2,080.3 | 2,055.7 | 2,081.1 | 2,066.9 | 2,112.5 |
| Independant agencies | | | | | | | | |
| General Services Administration[b] | 31.8 | 30.1 | 29.7 | 27.7 | 24.9 | 22.0 | 20.4 | 19.9 |
| All other | 159.1 | 150.9 | 148.5 | 151.3 | 150.8 | 153.7 | 156.8 | 151.5 |
| Subtotal | 190.9 | 181.0 | 178.2 | 179.0 | 175.7 | 175.7 | 177.2 | 171.4 |
| Total | 2,158.9 | 2,190.0 | 2,211.4 | 2,259.3 | 2,231.4 | 2,256.8 | 2,244.1 | 2,283.9 |
| All Branches | 2,213.9 | 2,245.6 | 2,267.8 | 2,316.3 | 2,287.8 | 2,313.9 | 2,303.0 | 2,343.3 |

SOURCE: Congressional Budget Office using data provided by the Office of Personnel Management.

NOTE: Data for nondefense agencies are averages of monthly employment counts. Totals for the Department of Defense represent employment at the end of the fiscal year. Data cover both permanent and temporary appointments, as well as full-time, part-time, and other schedules; all geographic areas; and all agencies except the U.S. Postal Service, the Central Intelligence Agency, and other, smaller agencies. Data do not cover overtime hours.

**Table A-1.**
**Continued**

| | 1990 | 1991 | 1992 | Change, 1982-1992 Thousands of Workers | Change, 1982-1992 Percent | Change, 1991-1992 Thousands of Workers | Change, 1991-1992 Percent |
|---|---|---|---|---|---|---|---|
| Legislative Branch | 37.9 | 38.2 | 39.1 | -0.2 | -0.5 | 0.9 | 2.4 |
| Judicial Branch | 22.6 | 24.6 | 27.0 | 11.3 | 72.0 | 2.4 | 9.8 |
| Executive Branch | | | | | | | |
| Departments | | | | | | | |
| State | 25.3 | 25.5 | 25.9 | 1.9 | 7.9 | 0.4 | 1.6 |
| Treasury | 162.2 | 169.1 | 169.8 | 47.5 | 38.8 | 0.7 | 0.4 |
| Defense | 1,072.8 | 1,044.5 | 1,006.0 | -21.6 | -2.1 | -38.5 | -3.7 |
| Justice | 81.6 | 87.0 | 94.8 | 39.4 | 71.1 | 7.8 | 9.0 |
| Interior | 75.0 | 76.4 | 80.4 | 2.1 | 2.7 | 4.0 | 5.2 |
| Agriculture | 118.9 | 118.4 | 122.3 | 2.0 | 1.7 | 3.9 | 3.3 |
| Commerce | 155.9 | 45.5 | 37.8 | 2.5 | 7.1 | -7.7 | -16.9 |
| Labor | 17.9 | 17.7 | 18.0 | -1.5 | -7.7 | 0.3 | 1.7 |
| Health and Human Services | 123.0 | 126.3 | 131.6 | -17.8 | -11.9 | 5.3 | 4.2 |
| Housing and Urban Development | 13.5 | 13.8 | 14.1 | -0.8 | -5.4 | 0.3 | 2.2 |
| Transportation | 66.5 | 67.8 | 70.3 | 8.8 | 14.3 | 2.5 | 3.7 |
| Energy | 17.5 | 18.6 | 20.5 | 1.9 | 10.2 | 1.9 | 10.2 |
| Education | 4.8 | 4.9 | 5.1 | -0.7 | -12.1 | 0.2 | 4.1 |
| Veterans Affairs[a] | 247.3 | 252.7 | 257.8 | 22.7 | 9.7 | 5.1 | 2.0 |
| Subtotal | 2,182.2 | 2,068.2 | 2,054.4 | 86.4 | 4.4 | -13.8 | -0.7 |
| Independant agencies | | | | | | | |
| General Services Administration[b] | 20.2 | 20.6 | 21.1 | -10.7 | -33.6 | 0.5 | 2.4 |
| All other | 158.9 | 165.1 | 165.6 | 6.5 | 4.1 | 0.5 | 0.3 |
| Subtotal | 179.1 | 185.7 | 186.7 | -4.2 | -2.2 | 1.0 | 0.5 |
| Total | 2,361.3 | 2,253.9 | 2,241.1 | 82.2 | 3.8 | -12.8 | -0.6 |
| All Branches | 2,421.8 | 2,316.7 | 2,307.2 | 93.3 | 4.2 | -9.5 | -0.4 |

a. The Department of Veterans Affairs replaced its predecessor, the Veterans Administration, in March 1989.

b. A significant portion of the decrease in employment at the General Services Administration reflects the transfer of some of its activities to other independent agencies. Preparedness activities were transferred to the Federal Emergency Management Agency, established pursuant to Reorganization Plan No. 3 of 1978. Archives and records functions were transferred to the National Archives and Records Administration, established by the National Archives and Administration Act of 1984.

Appendix B

# Estimating Layoffs of DoD's Civilian Workers

The Congressional Budget Office (CBO) based its estimates of layoffs of civilians at the Department of Defense (DoD) on the approach used by the base closure commissions. Under this approach, layoffs represent the residual number of personnel who would have to be fired after all likely separations had been taken into account. The separation factors, which are based on experience at DoD and estimates made by the base closure commissions, reflect the effects of both normal turnover and additional turnover generated by the prospect of layoffs. Those factors include normal resignations and retirements, temporary workers who must be let go before permanent personnel are laid off, and employees eligible for early or regular retirement who retire earlier than they would under normal circumstances.

This method could also be used to estimate the likely number of layoffs that would result from reductions in employment at other government agencies, because turnover rates are similar for DoD and the civilian work force as a whole. Most of the separation factors are also likely to be similar because personnel regulations (for example, the practice of giving workers facing a reduction in force a priority in placement within an agency) and the profile of the average civilian worker are similar for DoD and the civilian work force as a whole. Individual factors could, of course, vary among agencies and during different periods. For example, agencies may have different rates of success in transferring employees who face a layoff to other jobs, and retirement rates may fall if workers expect that incentives may be offered. All agencies, however, are likely to lay off far fewer workers than the number of jobs eliminated.

Based on this method, CBO estimates that about one of every four jobs eliminated will result in a layoff. To illustrate the method, the table below shows the number of layoffs generated by a reduction of 100 jobs.

| | Factor (Percentage of work force) | Effect (Number of employees) |
|---|---|---|
| Total Decreases in Work Force | n.a. | 100 |
| Separations | | |
| Normal rate of resignation[a] | 6 | -6 |
| Incremental resignations in RIF situation | 6 | -6 |
| Temporary workers not replaced | 8 | -8 |
| Normal retirements | 2 | -2 |
| Early retirements[b] | 17 | -17 |
| Placement of employees having priority | 38 | -38 |
| Total | 77 | -77 |
| Layoffs | 23 | -23 |

SOURCE: Congressional Budget Office using data from the Department of Defense, including some factors and methods DoD used to estimate the effects of base closures.

NOTE: n.a. = not applicable; RIF = reduction in force.

a. Includes workers who quit, transfer, or leave for reasons other than retirement.

b. Includes all workers eligible for early or regular retirement who retire earlier than planned.

Appendix C

# CBO's Seniority Model

The Congressional Budget Office constructed a model to estimate how limits on replacing workers--hiring freezes--affect the average salary, grade, and seniority of federal white-collar civilian employees over a five-year period. The model also estimates changes in payroll costs based on changes in employment levels. (Payroll is defined here to include total salary but not benefits.)

Starting with a distribution of the total white-collar civilian work force by grade and by step (to measure seniority), the model takes into account the grade and step level of workers who leave and those newly hired. The model also reflects current promotion rates from one grade to the next as well as the regulations that govern step increases that employees receive based on their continued service in government. (These rules provide for annual step increases for workers in steps 1 to 3, biennial increases for steps 4 to 6, and triennial increases for steps 7 to 9.) CBO used data provided by the Office of Personnel Management to tabulate separations, new hires, and promotions for the entire white-collar federal work force including both permanent and temporary employees.

All of the data for the model (starting population, separations, new hires, and promotions) are organized by tables of pay grade and step levels. Each table has 18 grades and 10 steps. The model uses data from fiscal year 1990--the most recent year in which nearly all separating workers (98 percent) were replaced. Since overall pay increases will not affect how different types of freezes compare with each other, CBO used the 1993 salary tables.

The model begins with tables of the starting population of both permanent and temporary white-collar workers, followed by parallel tables of workers who left. Separations in each projection year equal the percentage of workers in each grade and step "cell" who left the federal government in the sample year, multiplied by the number of total workers in that cell. For example, assume that out of 100 workers at grade 2, step 7, 10 workers separated in that year. The loss rate for that cell would be 10 percent in each year of the projection period.

The distribution of new hires is calculated by dividing the number of new hires in each cell by the total number of new hires in 1990. That creates a distribution table in which all of the percentages add to 100 percent. New hires are assumed to have the same distribution in every projection year. For example, if there are 100 new hires in the base year and 10 of them are grade 2, step 7, CBO assumes that 10 percent of each year's new hires are in that cell. The total number of new hires in a projection year equals the total number of separations in that year multiplied by the specified replacement rate (100 percent equals full replacement). The number of new hires in each cell is then computed by multiplying the total number of new hires by the percentage of new hires in each cell.

Two computations are necessary to estimate promotions. Each promotion both decreases the number in the cell that the promoted employee leaves and increases the number in the cell that he or she enters. Promotion rates for each cell equal the number of promotions to or from that cell, divided by the population in the cell at the beginning of the year. (Promotion rates are based on 1990 data.) To project promotions, these rates are multiplied by the population in the cell in that year.

Workers who do not leave and are not promoted earn step increases according to the regulations described above. To estimate the effects of these step increases for each year of the projection period, the model computes the final population at the end of the year, taking into account the effect of employee separations, the distribution of new hires, and promotions and standard step increases. The resulting distribution becomes the starting population for the following year. The process is repeated for each year.

Average salary reflects the distribution of the work force by grade and step. Over time, the composition of the work force (by grade and step) will depend on the number and distribution (by grade and step) of the workers who leave, those newly hired, and those promoted and on the step increases received by those who stay. CBO's model estimates the effects on average salary, grade, and step of replacing all, none, or only some of the employees who leave. Since new hires are mostly junior and hence have lower salaries than the workers who leave, full replacement reduces average (but not total) salary compared with partial replacement. Under a hiring freeze, however, the number of low-salaried employees falls as fewer of the workers who leave are replaced, causing average salary to rise even though total employment and payroll have fallen.

Average salary also reflects the number of promotions. Promotions are more frequent in lower grades and steps. Hiring freezes tend to decrease the number of promotions as the number of junior employees falls. Under a hiring freeze, therefore, promotions play a smaller role in increasing average salary.

Given the current composition of the white-collar work force, average salary increases even when there is full replacement. Average salary rises because the growth in average salary that results from promotions and step increases is greater than the decline in average salary that results from the influx of new hires. Limiting the number of new hires causes average salaries to increase more. At the same time, of course, payroll costs fall because there are fewer employees. CBO's model shows both of these effects as well as the relevant changes in grade and step.

To the extent that particular agencies have work forces whose makeup or rates of turnover and promotion differ from these overall averages, the effects of hiring restrictions on average salary and payroll will also differ.